Mississippi, next senator of, on typhoid, 1529
  state board May report, 520
  state board, October report, 2086
  valley and tropical diseases, 2091—ab
Missouri medical news, 137, 231, 415, 508, 611, 681, 1088, 1163, 1433, 1705, 1789, 1877, 1981, 2223
  state board June report, 696
  state board May report, 65
Mitral stenosis and dwarf growth, 873—ab
  congenital, with pregnancy and childbirth, 712—ab
Mobilization and massage, treatment of fractures by, 1554—ab
Moebius endowment, 684
Mole, hydatidiform, nature of, 81—ab
Mongolian spots and rickets in colored children of Jamaica, 867—ab
Monkey, digestive tract of, B bulgaricus in, 1732—ab
Monkeys, experimental production of disease in, and treponema pertenuis of yaws, 950—ab, 1187—ab
Monomania, insane delusions and demand of change in declaration as to, 1999
Monstrosity, double headed, 1073—O
Montano and Idaho, Rocky Mountain spotted fever in, 1809—ab
  medical news, 766, 1433
  state board April report, 64
Morbidity and mortality of child bearing women, reduction of, if maternity hospitals were more in favor, 623—ab
  lessened, due to purification of water supplies, 1431—E
  returns, international classification as applied to, 2089—ab
Moro tuberculin test, 239
Morphin derivatives in ocular therapeutics, 1037—ab, 1643—ab
  meconate, 2219
  poisoning, industrial, 2010—ab
Morphinism, chronic, its treatment, 1282—ab
  narcotic method of treating, 1032—ab
Mortality and morbidity of child-bearing women, reduction of, if maternity hospitals were more in favor, 623—ab
  from tuberculosis in Berlin, causes of decline of, 712—ab
  Infant. See Infant Mortality.
  rate in autopsies, 566—ab
  tables, use of, not dependent on race, color, time or place, 1728—ab
Mosquito and yellow fever, 2199—O
  destruction, in Cuba, 417—ab
  destruction in tropics, 2203—O
Mother and unborn child injured, rights to damages where, 942
Mothers of infants with inherited syphilis, serodiagnosis in, 876—ab
Motor car and telephone vs axis-traction forceps, 1555—ab
  function, and inhibition of brain, 183—O
  traffic, dangers of, in London, 235
Mouse tumors, influence of scarlet oil on, 2197—ab
Mouth and tongue, cancer of, 1730—ab
  breathing, causes and evils of, 1819—ab
  breathing, snoring, etc, 793—ab
  cancer of, in southern India, 79—ab
  cancer, transplantable, resistance of, to freezing with liquid air, 2003—ab
  care of, during infancy and childhood, 2186—ab
  hygiene of, 1895—ab
  inefficient care of, alveolitis or pathologic conditions arising from, 2113—O
  nose and pharynx, general anesthesia in, surgery of, 438—ab
  pigmentations of mucous membrane of, 1685—O
  rare ulcerative and necrotic processes in, 2098—ab
  tuberculosis of, 1364—ab
Mucous membrane, gastric, direct inspection of, 495—ab
  membrane of vagina and uterus, capacity of, for absorption, 2193—ab
  membranes, hygiene of, 1895—ab
Mucus, intestinal, paroxysmal excessive secretion of, 953—ab
  microchemical test for, in stools, 2099—ab
Muflet, T, 1732—ab
Mumps non suppurative involvement of labyrinth in, 1961—O
Municipalities in Ohio valley, responsibilities of, for epidemics of typhoid, 1496—O
  states and medical education, 606—I
Murine eye remedy, 1614
Murmur, exocardial, often misinterpreted, 1644—ab
  respiratory, and physics of physical signs, 390—O
Muscle, behavior of, after compression, 350—ab
Muscles and glands, resuscitation of, after temporary anemia, 350—ab
  congenital defects of, infantile disintegration of nuclei and progressive infantile dystrophy of muscles, 1115—ab
  ischemic contracture of, and plaster cast, 2195—ab
  paralysis of, and retching, and apomorphin poisoning, 1381—ab
  re education of, in tabes, 239
  smooth, application of McDougal's theory of, contraction to, 1278—ab
Muscular movements, single, coordination of, in central nervous system, 89—O
  rigidity, congenital, and dislocation of hip joint, 356—ab
  symptoms following exposure to intense heat, 1969—O
Myasthenia gravis, pseudoparalytic, 1191—ab
  with negative pathologic findings, 164, 2004—ab
Mycosis fungoides, 1821—ab
Mydriatic substance, in urine, 1702—E
Myelomalacia, traumatic cervical, 664—O
Myocarditis, chronic, 77—ab
Myocardium vs endocardium changes as cause of death, 1177—ab
Myoclonia, pathologic anatomic findings in, 538—ab
Myogenic theory, forms of cardiac arrhythmia from point of view of, 1467—ab
Myoma uterine, dangers and treatment of, 261—ab
Myositis ossificans, 344—ab
Myotonia, congenital, study of, by sufferer from it, 2091—ab
Myxoma of pelvis, true and false, 1282—ab
Myxomas, casuistic study of, 1913—ab

N

Nagana, experimental, arsenic treatment of, 447—ab
Name, commercial value of, 237
Narkine, 1439
Nasal dysmenorrhea, 264—ab
Nasopharyngeal origin of chorea, 2192—ab
Nasopharynx, obstructive abnormalities of, in children a factor in tuberculosis, 1367—ab
National commission on country life, work of, 1616—C
  Confederation of State Medical Examining and Licensing Boards, meeting of, 519
  Confederation of Eclectic Medical Colleges, 603
  Formulary, 1521
  Formulary and U S Pharmacopeia, need of more intimate knowledge of, among physicians, 2018—O
  Department of Public Health See Health
  Fraternal Sanitarium and Lloyd's specific, 1794
Nausea, postanesthetic, and vomiting, administration of oxygen for, 524—ab
Navy and Army, medical service in, 1440
Nebraska medical news, 231, 767, 852, 1088, 1241, 2166
  state board August report, 1528
  state board May report, 426
Neck, deformities of, 337—ab
  extirpation of glands in, injury of nerves during, 713—ab
  surgery of triangles of, 1543—ab
Necropsy, bovine, as object lesson on importance of tuberculin diagnosis of tuberculosis, 2173—C
Necrosis, chloroform, of liver, 1462 ab
  of limbs, after ligation of large trunk vessels, 797—ab
  phosphorus, treatment of, 355—ab
  progressive, of costal cartilages, 2095—ab
  subcutaneous, of fat tissue, 1471—ab
Needles, extraction of, 1042—ab
Negro, appendicitis in, 2081—ab
  consumptive, 533—ab
  his outlook for health, 533—ab
Negros tuberculosis among, 1963—ab
Neoplasms, active, non relationship of, to prognosis in malignant disease, 910—O
  of kidney, 1546—ab
Nephrectomy, immediate, case requiring, 1780—O
Nephritis, acute, in childhood, unusual type of, 156—ab, 867—ab
  chronic, and arteriosclerosis, lesions of suprarenals and, 2089—ab
  chronic, measurement of, blood pressure in, 1911—ab
  chronic, etiology of, 349—ab
  chronic, serotherapy of, 1823—ab
  chronic, treatment, 1642—ab
  chronic, with uremia, and neuroretinal lesion, subtemporal decompression in, 1902—ab
  congenital, 2185—ab
  decapsulation of kidneys in, 1710—ab, 1909—ab
  experimental, nephrotoxic substances in serum of animals with, 1903—ab
  hemorrhagic, epidemic of, following scarlet fever, 1410—O
  of pregnancy, suprarenal capsules in, 81—ab
  pneumococcus, 36—ab
  sclerous atrophic, of tuberculous origin, 1286—ab
  secondary, with transplacental typhoid infection, 1817—ab
  serotherapy of, 1738—ab
  surgical treatment of, 1374—ab, 1546—ab
  symptomatology of, 1286—ab
  symptoms, diagnosis and medical treatment of, 1546—ab
Nephrolithiasis, 260—ab
Nephropexy, 441—ab, 554—O
Nephrotoxic substances in serum of animals with experimental nephritis, 1903—ab
Nephroureterectomy for renal tuberculosis in women, 459—O
Neriot ferment, 143
Nerve anastomosis in infantile paralysis 318—ab
  atrophy optic, infrequent type of, 290—O
  auditory, division of, for painful tinnitus, 1645—ab
  changes, optic, in multiple sclerosis, 120—O
  conduction, temperature coefficient of velocity of, 390—ab
  facial, anastomosis of, 455—O
  involvement in fracture of extremities, 785—ab
  nasal, resection of, in intractable hay fever and paroxysmal coryza, 171—ab
  nucleus icterus of infants, 799—ab
  optic, affections of, differential diagnosis of, 483—O
  nerve, optic, affections of, in pregnancy 877—ab
  optic, disturbances of, in incipient multiple sclerosis, 1470—ab
  optic, indirect injuries of, 948—ab
  resection for painful stump, 333
  strain as etiologic factor in nervous affections, 632—ab
  ulnar, occupation neuritis of deep palmar branch of, 164—ab, 2004—ab
  ulnar, recurrent dislocation of, 1372—ab
Nerves, cranial, injuries of, from fractures or skull, 271—O
  injury of, during extirpation of glands in neck, 713—ab
  motor peripheral, surgery of, 526—ab
  recurrent laryngeal, paralysis of, of peripheral origin, 438—ab
  suture of, 264—ab
  suture of, prognosis in, 338—ab
  treatment of paralysis of, by plastic operations on, 633—ab
Nervous affections, nerve strain as etiologic factor in, 632—ab
  affections, traumatic, 1382—ab
  affections, traumatic, treatment of, 1382—ab
  and mental, diseases, and pelvic diseases, 1904—ab
  disease, and serodiagnosis of syphilis, 1894—ab
  disease, application of Wassermann test in diagnosis, prognosis and treatment of, 1894—ab
  disease, prostate as factor in, 2089—ab
  disturbances of arms in arteriosclerosis, 2197—ab
  strain and overwork, in tuberculosis, 1899—ab
  system and tuberculin reactions, 1604—E
  system, autonomous, in acute surgical conditions, 535—ab
  system, arterio clerosis of, 169—ab
  system and organs of senses, metastasis of carcinoma in, 2198—ab
  system, central, coordination of single muscular movements in, 89—O
Nervous system, heredity in diseases of, 2189—ab, 2190—ab
  system, influence of, on infective processes, 2093—ab
  system, modifications in, after stovain anesthesia, 955—ab
  system, organic disease of, early diagnosis, 2190—ab
Nervousness in children and their diet, 1560—ab
Neuralgia and neuritis, uric acid metabolism during subcutaneous oxygen treatment of, 1044—ab
  facial, verdict of French surgical congress on, 1909—ab
  syphilitic, 81—ab
  trigeminal, from changes in teeth, 266—ab
Neurasthenia, 624—ab, 1034—ab
  and hysteria, psychology of, 1377—ab
  autosuggestion in, 538—ab
  blood pressure in, and effects of treatment, 626—ab
  damages for injuries causing, 1459—ab
  from insufficiency of salivary glands, 59—ab
  hysteria, hypochondria and simulation, distinction between, 784—ab
  medical, dietetic treatment of, 634—ab
  mental aspect of, 1179—ab
  nature and treatment, 2185—ab
  treatment of, 955—ab
Neurasthenic and hysterical conditions following accidents, 1806—ab
Neuritis and neuralgia, uric acid metabolism during subcutaneous oxygen treatment of, 1044—ab
  ascending, 1558—ab
  multiple, 1543—ab, 2189—ab
  occupation, of deep palmar branch of ulnar nerve, 164—ab, 2004—ab
  secondary ulnar, with ischemic contracture, following brachial thrombosis, 2059—O
Neurologists, attitude of, to electrotherapy, 13—O
Neurology teaching in America, 1—O
  x ray in, 723—O
Neuron, peripheral centripetal in tabes, improvement of, by Frankel's exercise therapy, 955—ab
Neuroses, hyperemia in, 1462—ab
  factors in causation of, 2007—ab
  occupation, 1453—ab, 2189—ab
  of bladder, 76—ab
  of nose, 2233—ab
  of stomach, 74—ab
  reflex, from ocular and nasal abnormalities, 1815—ab
  vasomotor trophic, prognosis and treatment of, 2009—ab
Neurosis, expectation, monosymptomatic, 633—ab
  migraine an occupation, 200—O
  of diaphragm, 1741—ab
Nevada medical news, 1434, 2166
  state board May report, 243
Nevi and other lesions of skin, carbon dioxid snow in, 356—ab, 1057—ab
New and Nonofficial remedies, 1235, 1337, 1427, 1513, 2160, 2218
New Hampshire medical news, 508, 1518, 1981
  state board July report, 1100
  state tuberculosis sanatorium, 162—ab
New Jersey medical news, 232, 415, 508, 767, 926, 1020, 1163, 1519, 1981, 2066
  state board June report, 1171
New Mexico state board January and April reports 242
  state board July reports, 1528
New-York bovine tuberculosis inspection, 144—O
  decision, regarding osteopaths, 1459—ab
  medical news, 48, 137, 232, 325, 415, 508, 611, 682, 767, 852, 926, 1020, 1088, 1163, 1241, 1342, 1434, 1519, 1607, 1705, 1789, 1877, 1981, 2066, 2166, 2224
Newspaper, local, county society use, 144
Newspapers guide to science, 1667—ab
Nitrite poisoning by ingestion of bismuth subnitrate, 1514—E, 1711—C
Nitrites nitrous acid and aqua regia in determination of mineral constituents of urine, 1278—ab
Nitroglycerin tablets, physiologic assay of, 2130—O
Nitrous oxid and oxygen in dental and major surgery, 907—O
  anesthesia, 1576—O
  anesthesia, blood changes in, 1573—O
Nobel prizes, 2168, 2227
Nodes, Heberden's, 2182—ab

Non electrolytes and salts, influence of on heart, 350—ab
Non proprietary unofficial articles, 237—O
North Carolina medical news 137, 326, 416, 1020, 1089, 1164, 1241, 1454, 1608, 1877, 1982, 2167, 2224
  medical organization in, 610—ab
North Dakota, colleges not recognized in, 519
  medical news 767, 1241
  nostrums analysis in, 55
  state board July report, 696
  state board October report, 1719
Nose abscess of septum of, probably due to anthrax, 1697—O
  accessory cavities and throat and eye affections, 1471—ab
  accessory sinus complications following influenza, 1456—ab
  accessory sinuses of, diagnosis and treatment of diseases of 1516—ab
  accessory sinuses of, surgical treatment of orbital complications of diseases of, 299—O
  affections, induced hyperemia in 718—ab
  analgesia of, as prognostic symptom in dry catarrhal deafness 750—O
  and eye abnormalities, reflex neuroses from 1815—ab
  and face, non specific ulceration of bones of, 1465—ab
  and throat chronic infections of, systemic effects of, 1805—ab
  breathing and general disease, 2189—ab
  collodion dressings in, 1152—O
  depressed deformities of, combined bridge and intranasal splint for, 1421—O
  diseases of, in children, from general medical standpoint, 1455—ab
  hemorrhage from, common source of, in persons previously healthy, 2004—ab
  hygiene of, 1895—ab
  menstruation from, 1077—O
  mouth and pharynx surgery, general anesthesia in 488—ab
  neuroses of, 2233—ab
  septum of, typical crest shaped deflection 222—O
  submucous resection of lateral wall of, in chronic empyema of antrum, ethmoid and sphenoid, 1136—O
  sunken, operation for, 352—ab
  treatment of strictures of duct of, with lead styles 1207—O
  tuberculosis of, 1364—ab
  turbinal removal, rapid effective and least bloody method 1720—ab
Noses new, process for making, 1536—ab
Nostrum campaign, 778—ab
  circular nuisance and cheap postage 1707—E
Nostrums and German medical press, 330—ab
  and impure food, canned mud from exploiters of, 331—ab
  and medical education, 2230
  and religious journals 143—ab
  British investigations of, 1987—ab
  endorsement of work of Council against, 341—ab
  in North Dakota, analysis of, 55—ab
  local regulation of, 55
  responsibility of medical profession for use of 2022—O
  tax on in Great Britain 1707
Nuclei, infantile disintegration of, progressive infantile dystrophy of muscles and congenital muscular defects, 1115—ab
Nurse, contract to not one to practice medicine 529
Nurses male supply of, 50
  training schools for 1445—ab
Nutrition and digestion, characteristics of in early infancy, 1255 ab
  and fresh air adjuvants to in laryngeal and pulmonary tuberculosis 1465—ab
  of children practical application of food values in 1186—ab
Nuts, food value of, 2063—E
Nystagmus voluntary unilateral, 1939—O

O

Oatmeal diet and diabetes mellitus, 257—ab 1035—ab
Obesity exclusive milk diet in 876—ab
Obstetric case in country practice, after care of, 523—ab
  diary of William Hunter, 1379—ab
  experiences 1723—ab
Obstetrical kicks 1173—ab
Obstetrics and gynecology, under water examination and treatment in, 256—ab
Obstetrics chloroform in, 532—ab
  in northern mining community, 917—O
  in Philippines, 1185—ab
  old and new, 1011—ab
  scopolamin morphin in 177—ab
  serodiagnosis of syphilis in importance of, 795—ab
  significance of blood pressure and relation to work of heart 915—ab
  solving problem of, 1155—ab
  suprarenal preparations in, 630—ab
  training for, 954—ab
  urinary infections in, 1641—ab
  with sequela 786—ab, 1110—ab
Obstipation 250—ab
  is it a symptom or disease? 1906—ab
  spastic non existence of, 1619—ab
Obstruction, Intestinal See Intestinal Obstruction
Occipito posterior position management of, 1353—ab, 1375—ab, 2189—ab
Occlusion postoperative spastic, of intestine, explanation of, 2012—ab
Occupation for tuberculous convalescents choice of, 950—ab
  neurosis, migraine an, 200—O
  neuritis of deep palmar branch of ulnar nerve, 164—ab
Ochronosis and alcaptonuria, 148
Ocular See Eye
Ohio medical news 416 508 612, 768, 1021, 1164, 1342, 1434, 1706, 1790, 1878, 1982, 2067, 2167, 2224
  state board June report 519
  state board requires practical tests, 63
  valley, responsibilities of municipalities in for epidemics of typhoid, 1196—O
Oil in stomach diseases, 2009—ab
  olive, Italian, 1510—ab
  rub 1699
  sterile to prevent intraperitoneal adhesions 353—ab
Oklahoma medical news, 1242, 1608
  State M A, journal of, 49
Olympiads, ancient and modern, 501—F
Omentopexy to intestine deprived of its mesentery, 1105—ab
Omentum, great intra abdominal rotation of unaccompanied with hernia, 1107—ab
  great, primary sarcoma of, 81—ab
  inflammation of, 361—ab
  torsion of 260—ab, 1107—ab
Operation ideal, for arterial aneurism, 1380—ab
  immediate, indications for, in diseases of upper abdomen, 1642—ab
Operations, apparatus for providing visitors with complete view and for securing photographs and moving pictures of, 1551—ab
  effect of, on diabetic patients, 160—ab
  gynecologic, necessity for diagnosis as preliminary to, 1723—ab
  London coroner on, 45—E, 50
  major surgical, psychical and end results following, 259—ab
  privilege does not extend to mere observer of, 528
  mutilating, on female generative organs conditions of mind and body which may persist after, 345—ab
  which can be done without requiring after care in hospital, 358—ab
Ophthalmia neonatorum, 434—ab, 1818—ab
  as sociologic problem 793—ab
  beef serum treatment of, 876—ab
  report of committee on, 938—ab
Ophthalmia, sympathetic, 1905—ab
  sympathetic, sodium salicylate in, 1658—ab
Ophthalmic treatment case, pocket emergency, 1010—O
Ophthalmology for general practitioners, 1833—O
  otology and laryngology, journals on, 2075
Ophthalmoscope in general practice, 1186—ab
Opium and cocain insanity caused by acute and chronic intoxications with, 97—O
  bismuth and phenol, examination of tablets of, 330—O
  commission of U S, 678—E, 658—C
  law in Philippines, effects of, 378
Opposition to medical research, 635—O
Opsonic index, accuracy and errors of, 80—ab
  experimental error in determining, 80—ab
  in infants, 80—ab
Opsonic index in pulmonary tuberculosis, 626—ab
  in tuberculous infections, 1361—ab
  method of taking, 71—ab
  statistical considerations, 80—ab
Opsonic method, surgical view of, 80—ab
  methods application of, in comparing human and bovine tuberculosis 1189—ab
  power of breast milk, for tubercle bacilli, 1306—ab
  substances thermolabile and thermostabile, interaction of in normal serum, 256—ab
  therapy, practical application of, 550—ab
  treatment of disease, 166—ab
Opsonins in normal serum, specificity of, 256—ab
  theoretical considerations and experimental work, 166—ab
Optometry and medical education, 1800—ab
  in drugstores, 1998
  laws, attitude of physicians on, 1169
Oronasopharyngeal spaces, obstructive abnormalities of, in children, a factor to tuberculosis, 1367—ab
Orbit and adjacent sinuses, mixed streptococcus and pneumococcus infection of, 1905—ab
  melanosarcoma of, 530—ab
Orbital complications in disease of nasal accessory sinuses, surgical treatment of, 299—O
Oregon medical news 682, 1242
  state board July report, 781
Organism in epidemic diarrhea, 870 ab
Organisms resistance of, to freezing, 1701—F
Organotherapy, 2186—ab
Organs blood vessels and limbs, transplantation of, 1662—O
  volume and specific gravity of, 1816—ab
Orient modern medicine and surgery in 260—ab
Oropharynx, chronic inflammatory conditions of, 1467—ab
Orphan continent without, 1552—ab
Orthopedic surgery and study of tuberculosis 1628—ab
  treatment early necessity for, in poliomyelitis 1553—ab
Orthopedics tuberculin in, 343—ab, 1553—ab
Os calcis fractures of, 1799—ab
  external, secondary rigidity of from acute puerperal inflammation of cervix 354—ab
Osteitis Paget's deforming 1474—ab
Osteoarthritis endemic deforming, in eastern Siberia, 713—ab
Osteomalacia and ovarian antibodies, 449—ab
  and rachitis, 1454—ab 2189—ab
  and rachitis, and influence of suprarenals on bony skeleton, 1377—ab
Osteomyelitis acute suppurating, treatment of, 87—ab
Osteopathic vs drug treatment, 2135 O
Osteopaths liability of, for malpractice 1031
  New York decision regarding, 1459 ab
Osteosarcoma of knee joint, 622—ab
Osteotome spiral driven by surgical engine in craniotomy, 1150—O
Otitis media, acute, in infancy and childhood 808—ab
  acute prophylaxis and treatment of 868—ab
  chronic 86—ab
  chronic, vaccines in 1465—ab
  complicating scarlatina and measles, treatment of, 1279—ab
  suppurative, 1549—ab
Otitis scarlatinal occurrence and treatment of, 1824—ab
Otology, ophthalmology and laryngology, journals on 2075
  rhinology and laryngology, border line of, 361—O
  object lessons in, for general practitioner, 1807—ab
  oration on, 1178—ab
Out patient department, functions of, 261—ab
Ovarian cysts dermoid of unusual size 2215—O
  syndrome psychic disturbances in, 2007—ab
Ovaries and Fallopian tubes, operations on 259—ab
  preservation of in hysterectomy, 75—ab
  transplantation of, 707—ab 1802—ab
  tumors of complicating pregnancy and puerperium 169—ab
  what can we learn from after history of reimplantation of? 956—ab
Ovariotomies, primary and ultimate results of, for anatomically malignant and dubious tumors, 716—ab
Ovariotomy during labor, 2091—ab
  during pregnancy, 1646—ab, 1817—ab
Ovary and pancreas reciprocal relations of, and internal secretion of corpus luteum, 1742—ab
  antibodies of, and osteomalacia, 449—ab
  endotheliomata of 82—ab
  solid teratomas of 1744—ab
Overcivilization effect of, on maternity, 1902—ab
Overpressure, apparatus for, 87—ab
Overweight and underweight, influence of, on vitality, 1032—ab, 1187—ab
Overwork and nervous strain, influence of, in tuberculosis, 1893—ab
Oviduct in hen, resection and end to end anastomosis of, without loss of function, 1108—ab, 1314—O
Ovum, human, development of, during first eight weeks of pregnancy, 1457—ab
Oxygen, administration of, for post anesthetic nausea and vomiting, 524—ab
  and intubation, for resuscitation after apparent death, 2198—ab
  and muscular exercise as form of treatment, 1554—ab
  and nitrous oxid in dental and major surgery, 907—O
  continuous current of, in puerperal infections, 1821—ab
  continuous inhalation of, in pneumonia, 712—ab
  in medicine and surgery, 626—ab
  in tuberculous peritonitis, 865—ab
  inhalations in athletics, 855—ab
  treatment, subcutaneous, of neuritis and neuralgia, uric acid metabolism during, 1044—ab

P

Pain acute abdominal, diagnostic significance of, 1037—ab
  clinical aspects of, 443—ab
  electricity in relief of, 1891—ab
  referred, 534—ab
  remote, following abdominal operations 700—ab 1187—ab
  significance of left sided, in appendicitis, 949—ab
  visceral, sensitiveness to 2195—ab
Pains lancinating in head in tabes dorsalis, 1913—ab
  lightning, and gastric crises arterial pressure in tabes dorsalis and its modification by, 1798—ab
  visceral, and gallstones differentiation of gastric pains from, 1805—ab
Palate, cleft, operation for, by suturing over plates 713—ab
  hard in normal and feeble minded individuals 2168—E
Palsy See Paralysis
Panama, American medical administration in, through British eyes, 43—E 651—ab
  America's triumph in 78—ab
  pneumonia in, 1371—ab
  treatment of amebic dysentery in, 2234—ab
  triumph of sanitation at, 764—E
Panase, 1513
Pancreas alleged urinary manifestations in diseases of, 837—O
  and ovary, reciprocal relations of, and internal secretion of corpus luteum, 1742—ab
  and gastrointestinal diseases, 170—ab
  benign and malignant diseases of, 170—ab
  cancer of 1178—ab 1908—ab
  fistula, secretion from, and influence of antidiabetic diet, 1350—ab
  function of testing 73—ab
  inhibition of activity of, by extracts of suprarenal and pituitary bodies, 1162—ab
  Löwi's sign of insufficiency of, 800—ab
  physiology and chemical pathology of, in pancreatitis 2234—ab
  physiology and pathology of secretion of fistula of, 1559—ab
  surgery of, 170—ab, 632—ab
Pancreatic diabetes and gallstones, 1774—ab, 2224—ab
  secretion diagnostic importance of and method for obtaining, from stomach, 1359—ab
Pancreatitis, 250—ab

Pregnancy, tubal and intrauterine, coincident, 1730—ab
  tubal, early anatomy and histology of, 1284—ab
  tubal, etiology, diagnosis and treatment, 2195—ab
  tubal, immediate vs deferred operation for intra abdominal hemorrhage, due to, 2002—ab
  tubal, ruptured, when shall we operate? 1767—O
  tubal, treatment of after rupture or abortion, 2236—ab
  vomiting of, uncontrollable, 1380—ab
  vomiting of, uncontrollable successfully treated by suggestion, 86—ab
  vomiting of, 845
  vomiting of, etiology and treatment of, 714—ab
Prescribing, counter, and patent medicines, 1632—ab
  Pharmacopeia as standard for, 2013—O
  reform in, 1177—ab
  remedies and practice of medicine, what constitutes? 1276—ab
  simplicity, in, 962—O, 1249—C
Prescription, physician's, druggist's protection, 529
  Latin, 1349
  shot gun, 2228
  writing, 1096
Presentation, transverse, management of, 537—ab
President Roosevelt's address at *International Congress on tuberculosis*, 1261—ab
Press, daily, physicians to influence public opinion through, 1167
  German medical, and nostrums, 330—ab
  lay on antivivisection, 144
Pressure, artificial intrapulmonary positive, in surgery of lungs, 803—O, 805—O
  conditions within abdomen, 1033—ab
  high arterial, and retinal hemorrhages, 1177—ab
  in pleuritic effusions, 174—ab
  intraspinal, device for manometric estimation of, 1566—O
  procedure, Sauerbruch *negative*, value of, in prevention of pneumothorax, 808—O
  regulation of in Bier treatment, 255—ab
Preventorium league, 414—E
Priest and physician, 1901—ab
Printers, pulmonary tuberculosis among, 1726—ab
Prison, mentally defective in, 354—ab
Privilege does not extend to mere observer of operation, 528
  testimony by patient not waiver of, 1030
  waiver of, 1370
Prize, chemistry, Cannizzaro, 138
Probity, pianos *and proprietaries*, 1016—E
Proctitis See also Rectum
Proctitis sphincteric, 875—ab
Profession, overcrowded, 772
  what it may do in matters of state, 170—ab
Professional services, things not provable in action for, 1814
Professions, public service of, 1875—E
Prognosis, hopeful, 1979—E
Prohibition states, duty of physicians in, 335
Prophylaxis, and suicide, 226—E
  wholesale, 924—E
Proprietaries, fraudulent, exposure of, in Germany, 857—ab
  pianos and probity, 1016—E
  prescribing of, 989—O
Proprietary booze miracle, 1865—ab
  problem, final disposition of, 687—O
  rights, 140—O
Prostate and bladder, cysts near, 1471—ab
  as factor in nervous disease, 2089—ab
  enlarged, treatment of, by high-frequency currents, 1890—ab
  hypertrophied, 793—ab
  hypertrophied, retention catheterization in, 87—ab
  hypertrophied, x ray treatment of, 1808—ab
  surgery of, 1815—ab
  or bladder, advanced cancer of, value of bilateral ureterostomy in, 443—ab
  or seminal vesicle, inflamed, determination of gonorrheal infection in, 1108—ab
  prognosis of obstruction of, after operation, 949—ab
Prostate stretching, 713—ab
Prostatectomies, perineal, 128 successful, 160—ab
Prostatectomist, *yeoman, confessions* of, 706—ab
Prostatectomy at two sittings under local anesthesia, 84—ab
  device for prolonged irrigation and drainage of bladder after, 948—ab
  improved technic for, 632—ab
  new and rapid method of perineal drainage in suprapubic, 887—O
  perineal, preceded by suprapubic cystostomy in septic case, 178—ab
Prostatic disease in diabetics, 258—ab
  obstruction, permanent suprapubic drainage for relief of, 1282—ab
  real conservatism in treatment of, 706—ab
Prostatitis, clinical aspects of, 786—ab
  symptomatology of, 2081—ab
Prostitution, 706—ab, 1903—ab
Protection against substitution, 330—O
  as therapeutic principle, 1891—ab
Proteid in urine, 691
Proteids in milk, estimation of, 60
  of tumors, study of, 251—ab
Protein catabolism, influence of internal hemorrhage on, 1033—ab
Proteins, bacterial, anaphylaxis induced by, 836—O
Pruritus of perineal region, 1513—ab
Prussia, cremation in, 51
Pseudoangina and angina pectoris, 1544—ab
Pseudophosphaturia as sign of debility, 1651—ab
Psoas magnus, psoas parvus and iliacus, tenotomy of, in spastic spinal paralysis, 1826—ab
Psoriasis in children, 2061—ab
Psychiatric prognosis, elements of, 108—O
Psychiatry and literature, 1793
  current, trend of, 1187—ab
  splendid gift to advance, 43—E
Psychic disturbances in ovarian syndrome, 2007—ab
  factor, and surgical aspects of exophthalmic goiter, *260—ab*
Psychical end results following major surgical operations, 259—ab
Psychologic tests on tuberculosis patients, 1371—ab
Psychology in disease, 1797—C
  morbid, 1625—ab
  of neurasthenia and hernia, 1377—ab
Psychopathic institute of Illinois, 503—E
Psychoses, alcholic, 1638—ab
  in children, 84—ab
  of pregnancy, 1382—ab
  recoverable, prognosis in, 624—ab
  tardy recovery from, 1476—ab
Psychotherapeutic methods, analysis *of, 169—ab*
Psychotherapy, 37—O, 368—O, 1376—ab, 1796—C, 1988—C
  and religion, 2221—E
  bottled, 52—O
  rest treatment in, 164—ab
  scope and limitations of, 949—ab
Ptoses, visceral, and movable kidney, corset for, 1568—O
Ptosis, visceral, mechanical treatment of, and new method of applying bandage, 1270—ab
Ptyalin, effect of potassium iodid on activity of, 350—ab
Puberty, indications of special secretion in testicles before, 2085—ab
Pubic arch, *inpaction of*, in bladder, with multiple fractures of pelvis and femur and trauma of kidney, 948—ab
Pubiotomy, 83—ab
  and induction of premature delivery in home, 264—ab
  indications for, and prognosis of, 2236—ab
  justifiability of, 71—ab, 1033—ab
Public affairs, and physicians, 710—ab
  and medical profession, 162—ab, 709—ab
  attitude of, toward medical legislation, 1103
  duties of medical profession to, 1461—ab
  education of, and progress in medicine, 248—ab
  enlightment of, on fraudulent medical concerns, 1873—E
  health and vital statistics, 249—ab
  health, department of, and President Roosevelt, 1338—E
Public health, education and legislation, 710—ab
  health, industrial regulation in interest *of, 1236—E*
  health, international bureau of, 138
  health laws in Illinois, 1036—ab
  hdalth, national department of, 227—E, 241, 425, 1338—E, 1634 ab
  health, national department of, and Anti Tuberculosis problem, 1462—ab
  medical education of, 240, 339—ab, 618, 1280—ab
  opinion and Fourth of-July holocaust, 850—E
  policy and medical profession, 1249
  service, 60, 119, 239, 333, 424, 517, 616, 693, 779, 860, 933, 1027, 1096, 1168, 1250, 1349, 1440, 1527, 1619, 1718, 1799, 1884, 1990, 2075, 2176
  service of professions, 1875—E
  surgical rights of, 864—ab, 1037—ab, 1375—ab
Puerpera to child, transmission of infection from, 632—ab
Puerperal eclampsia, kidney decapsulotion in, 261—ab
  fever 1037—ab
  fever, blood findings in, in respect to prognosis, 82—ab, 1473—ab
  fever, operative treatment of, 2003—ab
  fever, prevention of, 1473—ab
  infections, continuous current of oxygen, 1821—ab
  infection, etiology and treatment *of, 338—ab*
  infection, fixation abscesses in, 2235—ab
  infection, importance of hemolytic streptococci, 1113—ab
  infection, prognosis and treatment of, 2010—ab
  inflammation of cervix, acute, secondary rigidity of external os from, 351—ab
  pyemia cured by ligation of pelvic veins, 267—ab
  sepsis, problems in treatment of, 209—ab
Puerperium and pregnancy, prognostic value of nuclear count associated with, 867—ab
  and pregnancy, ovarian tumors complicating, 169—ab
  labor and pregnancy, kidney disease during, 1281—ab
  parturition and pregnancy after ventrofixation, 1553—ab
  quantity and quality of breast milk during first two weeks of, 1209—O
  suppurative meningitis in, 446—ab
Pulling down sensation to be as sumed, 863—ab
Pulse, jugular, of man, 440—ab
  permanent slow, pathogenesis of, 1646—ab
  slow, in acute parotiditis, 450—ab
  venous, characteristics of, in hypertrophy of left heart with kidney heart and aortic insufficiency, 174—ab
Puncture of brain, 1820—ab
Pupil See also Eye
  Kugel's operation for occlusion of, 1440
  suggestions of, in general disease, 1902—ab
Pupils, idiopathic inequality of, 1177—ab
  subnormal and mentally deficient, physical defects of school children causing, 625—ab
  unvaccinated, restriction of power to exclude, 864—ab
Pure food and drugs congress, 854—ab
Purin autointoxication due to non-use of meat, 67—ab
Puro, 614
Purpura hemorrhagica, malaria as cause of, 2003—ab
Purum tuberculinum, in pulmonary tuberculosis with, 1448—ab
Putrefaction, intestinal, and indicanuria, 1636—ab
  intestinal, and toxicity of urine and stools in infants fed on foods rich in albumin, 360—ab
Pyelitis and menstruation, 875—ab
  pathology and treatment of, 1739 ab
Pyelonephritis, suppurative, 1073—O
Pyemia, puerperal, cured by ligation of pelvic veins, 267—ab
Pylorus, congenital narrowness of, a cause of chronic stomach disease in adult, 536—ab
  congenital stenosis and spasm of, in infancy, 708—ab
  congenital stenosis of, 81—ab, 338—ab, 353—ab, 532—ab, 1284—ab
  congenital stenosis of in adult, 536—ab
Pylorus, congenital, stenosis of, recognition and internal treatment, 2197—ab
  hypertrophic stenosis of, 784—ab
  normal palpation of and expiratory gurgling, 356—ab
  permeability of, new method of estimating, 73—ab
Pyocyanase in diphtheria, 1042—ab
  in diphtheria, scarlet fever and tonsillitis, 1288—ab
Pyogenic processes, and bacterial vaccines in, 792—ab
Pyonephrosis and cerebral abscess, 756—O
  tuberculous, without outward manifestations, 1114—ab
Pyopericardium in children under twelve, 951—ab
Pyrenol tablets and eglatol capsules, 774—ab
Pyrexia, anomalous, in children, 1282 ab
Pyroligneous acid, dangers of, 1561—ab

Q

Quack in medicine and pharmacy, 1712
  prosecution of, 329
Quackery and quacks, practical methods of dealing with, 1109—ab
  bill against, 235
  pioneer in fight against, 1898—C, 2074—C
Quacks and quackery, practical methods of dealing with, 1109—ab
  uranalysis by, 238
Quadruplets, birth of, 1869—O
Quassin, 2161
Quebrachin, effects of, on lungs, 1593—O
Quinin, action of, pyretic phase in, 178—ab
  and urea hydrochlorid, hypodermic use of, in diagnosis and treatment of acute and chronic malaria, 1550—ab
  anesthesia, painless tonsillectomy and adenectomy with, 496—O
  as local anesthetic, 690—C
  in syphilis, 84—ab
  intoxication, 267—ab
  isotonic solution of, for intravenous injections, 1040—ab
  large doses of, in dermatitis exfoliativa, 1188—ab
  small doses of, effects of prolonged use of, 1914—ab
  treatment of intolerance of, 1561—ab

R

Rabbit, arterial degeneration in, 1056—O
Rabbits, antigens from, serodiagnosis of syphilis with, 878—ab
  ear, experimental hyperemia in streptococcus infection in, 1913 ab
Rabies in Great Britain and America, 1428—E
  rabicidal properties of human serum after antirabic treatment, 78—ab
  report of committee on standard methods for diagnosis of, 941—ab
  serum, preparation of, 78—ab
  smear method as means of rapid diagnosis of, 288—O
Race suicide and criminal abortion, moral aspects of, 1819—ab
  suicide problem, 249—ab
Rachitis, 443—ab
  and mongolian spots in colored children of Jamaica, 867—ab
  and osteomalcia, 1541—ab, 2189—ab
  and osteomalacia, and influence of suprarenals on bony skeleton, 1377—ab
  and scoliosis, 798—ab
  dental erosions from, with lamellar cataract, 1130—O
  digestive disturbances in, 2192—ab
  early acquired and congenital, 632—ab
  early, clinical research on, 1288—ab
  eburnation of, and bone fragility, 344—ab
  in ancient times, 1474—ab
  suprarenal capsules and, 85—ab
  tardy, 541—ab
Radiographic work, records of, 1796 ab
Radiography in colors, is it possible? 1377—ab
  plastic, 624—ab
Radiotherapy of cancer, biologic principle of, 2010—ab
  of disfiguring affections, 1103—ab
Radium, 1439
  bromid, rather than operation or x ray in early treatment of superficial cancer, 432—ab
  bromid, treatment of superficial cancer, especially epithelioma, 891—O

Radium research, public interest in, 1023
  therapeutic action of, 1283—ab
  treatment of angioma, 797—ab
Radius avulsion of bicipital tuberosity of 1641—ab
  fracture of head and neck of, 77—ab
  lower epiphysis of nailing, 1329—O
  musculospiral paralysis due to dislocations of head of, 1034—ab
Railroad company, legal relations of railroad surgeon to, 1185—ab
  company, railroad employes' hospital association and liability of it and letting insane patient leave unattended, 1104
  employes' hospital association and liability of it and railroad company letting insane patient leave unattended, 1104
  surgeon, legal relations of, to railroad company, 1185—ab
Railway employes paresis and brain diseases in, data regarding, 164—ab
  sanitation, 2188—ab
  surgeons who are not permitted to have passes, 1899
Râle sound, artificially induced, for teaching purposes 1380—ab
Ranula and other diseases of salivary glandular system, 993—O
Rat destruction in Punjab, 1112—ab
  leprosy, 690—ab, 1153—O
Rationalization in everyday life, 2167—ab
Rats destruction of, 1707
Rauch, J H, burial place of, 2228—C
  pioneer in fight against quackery, 2074—O
Raynaud's disease, 1552—ab
  and exophthalmic goiter 178—ab
  erythromelalgia and allied conditions and vascular disease of extremities 1902—ab
  painful feet of 528—ab
Reaction, agglutination value of, and of bacteriologic methods in diagnosis of glanders 2003—ab
  Calmette's ocular See Tuberculin
  convergent in reflex immobility of pupils, 630—ab
Reactions abnormal, to horse serum in serotherapy of cerebrospinal meningitis 2191—ab
Reciprocity, correct attitude regarding, 1620
  regulations in Louisiana, 1351
  state, in dental practice licensing, 563—O
Rectal drainage, in pelvic abscess, 353—ab 711—ab
Rectum and anus bloodless amputation of, 991—O
  and anus primary melanotic sarcoma of, 790—ab
  and sigmoid cancer of, surgical treatment of, 167—ab
  and sigmoid, new position for diagnosis and treatment of diseases of, 1134—O
  and sigmoid, prolapse of, following hysterectomy, 1195—O
  cancer of, 1276—ab
  cancer of anuria with, 2008—ab
  cancer of, treatment of, 360—ab, 1728—ab
  carcinoma of, excision of, by combined method, 791—ab
  careful examination with proper instruments in disease of, 1036—ab
  excision of for cancer, 1107—ab
  excision of, for cicatricial stricture by combined method, with preservation of sphincter, 1282—ab
  rupture of, 264—ab
  sarcoma of, non melanotic, 176—ab
  venereal stricture of, surgery of, 1806—ab
Red cross in antituberculosis war, 2078—ab
  light and measles 837—ab
Reed Dr C A L, announces his views on public health 425
Reflexes in diagnosis, value of, 1037—ab
  in insane, 624—ab
Refraction in Indians fresh from plains 208—O
Refractory period and period of varying irritability in heart muscles, [illegible]0—ab
Refrigerator milk, inexpensive homemade 317—O
Registration in Canada, 1102
  time limit upheld by supreme court 1714
Reincubation and reinoculation of atypical diphtheria cultures, result of, 941—ab
Reinhardt case, 1141—O, 1160—E
Reinoculation and reincubation of atypical diphtheria cultures, result of, 941—ab
Relaxation or strain of sacroiliac joint, condition of, 1734—ab
Religion and psychotherapy, 2221—E
Religious journals and nostrums, 143—ab
Remedies patent for piles, 931—ab
  prescribing and practice of medicine, what constitutes, 1276—ab
Rengo fruit and marmola, composition of, 1439
Reorganization in Maine 336
  standard adopted, 161—ab
Reports state board, 695
Reproductive Organs See Genitalia
Reptiles do not live in human stomach, 149
Rescue work in mines, organized, 412—E
Research and medicine, 1700—E
  defense society, 234
  laboratories of manufacturing pharmacists, 54
  medical, defense of 234 676—E
Resection plastic, to restore function to old amputation stump, 1903 ab
Resorcin, poisoning from external application of, 758—ab
Respiration artificial, apparatus for, when thorax is opened, 2198—ab
  artificial, injuries in new born produced by 2002—ab
  artificial, in its physiologic aspects, 801—O, 803—O, 805—O
  artificial, positive pressure method of, 801—O 803—O 805—O
  nasal, and general diseases, 1456—ab
Respiratory organs, physiology of, 1560—ab
Responsibilities of the hour, Nicholas Senn 961—O
Responsibility, legal, 1807—ab
Rest and exercise in tuberculosis, 2233—ab
  curative effect of in children with persistent loss of appetite, 1917—ab
  treatment in relation to psychotherapy, 164—ab
Restraint, simple, 919—O
Resuscitation after drowning 779
  in apparent death by oxygen and intubation, 2198—ab
  minor points to improve Schulze's swinging in, 1117—ab
  of heart by subdiaphragmatic massage, 1187—ab
Retina, diseases of, 1357—ab
  tear in 1188—ab
Rheumatism, 970
  acute, 345—ab
  acute articular, 1177—ab
  acute articular, bacteriologic study of, 534—ab
  and bee stings 1644—ab
  as after affection of chorea, 715—ab
  in children, peculiarities of symptomatology of 708—ab
  of brain, 717—ab
  nodular, in children, 178—ab
  quack prosecuted for advertising to cure, 379
  serous inflammations due to, 2235—ab
  thyroid, 713—ab
  tuberculous and inflammatory tuberculosis, 1897—ab
  tuberculous articular, 1741—ab
Rhinology, otology and laryngology, borderline of, 361—O
Rhizomelique, spondylose, nervous system in, 463—O
Rhode Island requires graduation, 153
  state board April report, 64
  state board July report, 1620
Rhythms, so called, of growth energy, 252—ab
Rib, first, chondrotomy of, in incipient apical tuberculosis 449—ab
Ribs actinomycosis of, 344—ab
  cervical, surgical importance of, to general practitioner, 1126—O
  painful displacement of, 1554—ab
Rickets See Rachitis
Ringworm epidemic, at St Gallen, 1824—ab
Roaches, destruction of, 516
Rocky Mountain fever in Idaho, 1809—ab
  spotted fever, in Montana and Idaho, 1809—ab
  tick fever clinical phases of, 1809—ab
  tick fever, indications for state control of, 1809—ab
Rodents and men fleas on, on Pacific coast, 495—O
Roentgenology in neurology, 723—O
Roentgen ray, a victim of, 419
  and fractures, 1105—ab
  and high frequency treatment of leprosy, 1112—ab
Roentgen ray and operative treatment, congenital sarcoma of femur cured by, 1286—ab
  as aid to diagnosis of tuberculosis of lungs, with demonstration of skiagrams and new orthodiascope, 1904—ab
  behavior of animals in response to bacterial infection after exposure to, 449—ab
  detection of incipient pulmonary tuberculosis, 715—ab
  diagnosis and treatment of fractures, 68—ab
  diagnosis in tuberculosis of bronchial glands and apices, 1192—ab
  diagnosis of chest conditions, 1624—ab
  diagnosis of joint tuberculosis, 1642—ab
  diagnosis of pulmonary tuberculosis, 940—ab 1254—ab, 1283—ab, 1897—ab
  diagnosis of renal and ureteral calculi, 169—ab
  diagnosis of stricture of esophagus, 1806—ab
  discussion of evidence and law in action for malpractice in use of, 1182
  dosage, 1382—ab
  effects of on young amphibians, 516—ab
  examination obscure fractures discovered by, 790—ab
  examination of esophagus, 1901—ab
  how to outline heart with, 1380—ab
  in epithelioma, 1761 O
  in exophthalmic goiter, 1474—ab, 1543—ab, 1638—ab
  in myelogenous leukemia, 708—ab
  in neurology, 723—O
  in cutaneous tuberculosis 261—ab
  inspection of thorax in dyspnea patients, 874—ab
  medicolegal status of, 1037—ab
  motor functions of stomach as demonstrated by, 710—ab
  or operation, radium bromid rather than in early treatment of superficial cancer, 432—ab
  palliative treatment of malignant diseases by, 947—ab
  photography instantaneous, 1895—ab
  plates of fracture from Massachusetts general hospital, 432—ab
  radium bromid rather than operation or, in early treatment of cancer, 432—ab
  treatment and general practitioner, 541—ab
  treatment of deep seated processes, technic for 264—ab
  treatment of fractures as affected by, 431—ab
  treatment of hypertrophied prostate, 1808—ab
  tumors 1287—ab
  uses dangers and abuses, 1763—O
  uses of by general practitioner, 1186—ab
Room disinfection new and efficient method of 438—ab
Roosevelt, President and department of public health, 1338—E
Royal College of Surgeons women refused admission to, 510
Rubber tissue, treatment of burns by 333
  tubing vessel anastomosis by means of, 1550—ab
Rubner, medal for, 49
Russia, cholera in, 610—E, 1978—E

S

Saccharometer, new for use with Fehling's solution 496—O
Sacroiliac disease, 1105—ab
Sacrosciatic foramen, hernia in, 356—ab
Saline enemas continuous in peritonitis, apparatus for, 406—O
Saliva, cats, diastase in 350—ab
  diagnostic power of, 1618
Salivary glands neurasthenia from insufficiency of 59—ab
Salt, alleged antitoxic action of, 147—ab
  and gastric secretion, 537—ab
  and sugar solutions infusion of, in infants, 630—ab
  and water, pathology of metabolism of 1559—ab
  metabolism and ash free diet experiments on, 727—O
  metabolism in pneumonia, 446—ab
  solution normal, in septic peritonitis, 1726—ab
Salts and non electrolytes influence of on heart 750—ab
  physiologically isotonic solution of, experiments toward, 752—O
Sanatoria for women with tuberculosis 1269—ab
  requirements for prophylaxis and treatment of tuberculosis in, 1269—ab
  treatment of consumptives in their homes and places other than, 1896—ab
  treatment of tuberculosis in, and entire change of climate, comparative importance of, 1173—ab, 1254—ab, 2088—ab
  tuberculosis, cost and maintenance of, with special regard to institutions operated by life insurance associations, 1896—ab
Sanatorium, tuberculosis, New Hampshire state, 162—ab
  work, experience with tuberculosis in, 1896—ab
Sanitary problems 342—ab
  regulations, reform in, proposed, 236
  supervision, state, 1184—ab
Sanitation and hygiene, domestic, municipal, national and international, 869—ab
  army camp, 1969—ab
  in Africa, 2182—ab
  in ankylostomiasis in tropics, 1907—ab
  Panama, Treves commends, 651—ab
  problems of, 950—ab
  railway, 2188—ab
  rural, and farm commission, national, 679—E
  triumph of, at Panama, 764—E
Santonin treatment of dysentery, 1469—ab
Saranac laboratory, experimental work relative to opsonins at, 166—ab
Sarcoma and diseases of blood, 2004 ab
  conservative treatment of, 1037—ab
  Hodgkin's disease a type of, further evidence in support of theory, 353—ab
  idiopathic multiple hemorrhagic, 1205—O
  mediastinal, differential diagnosis of 1806—ab
  melanotic, of common bile duct and ampulla of Vater, 260—ab
  of appendix and primary carcinoma, 260—ab
  of chorioid, 1188—ab
  of femur, congenital, cured by operative and x ray treatment, 1286—ab
  of great omentum, primary, 81—ab
  of liver primary, 800—ab
  of lymph glands, simulating granuloma, 539—ab
  of rectum and anus, primary melanotic, 790—ab
  of rectum, non melanotic 176—ab
  of uterus, perithelial, 1227—O
  results in treatment of, 1037—ab
Sausages and their hygienic preparation examination of, 952—ab
Sawdust bread in habitual constipation, 539—ab
Scalp tumor, giant, 1913—ab
Scaphoid ankle region injuries, especially of, 1114—ab
Scapula, endothelioma of with removal of entire bone, 757—O
Scar formation, possibility of avoiding in softened tuberculosis of cervical glands, 1628—ab, 2000—ab
  reduction of size of, by application of iodin 956—ab
Scarlatina and measles, complicated by otitis media, treatment of, 1279—ab
  hydrotherapy in, 1304—O
Scarlatinal joint affections, 874—ab
Scarlet fever, 693 ab, 1375 ab, 1407 O
  and erysipelas 1651—ab
  causal germ of, 1739—ab
  diphtheria and tonsillitis pyocyanase in, 1288—ab
  epidemic of hemorrhagic nephritis following, 1410—O
  complement fixation in 1911—ab
  home treatment of, 1907—ab
  patients behavior of serum of, in syphilis serum test, 1470—ab
  perforation of empyema in ethmoidal and frontal sinuses into orbit, typical complication of, 1645—ab
  treatment of, 1042—ab, 1823—ab
  without rash, 933
  wound, 2035—ab
Scarlet oil, influence of, on mouse tumors, 2197—ab
Scars burn, operation for, 526—ab
Scharlach R salve, healing of granulations under, 1561—ab
Schistosomum mansoni Sambon 1907, what is 1905—ab
School age 532—ab
  age pulmonary tuberculosis in children of 1112—ab
  and doctors, 540—ab

School Children: See Children
  for scandal, modern, 323—E
  hygiene, second international congress on, 340—ab
  public, education, 157—ab, 867—ab
  public, instruction in New Jersey, 1529
  rooms, artificial illumination of, 1905—ab
Schools, Medical: See Medical Colleges
  open air, 510
  public, eye conditions in, 789—ab
  tuberculosis, education in, 1358—ab
Sciatica, 250—ab, 354—ab, 1552—ab
  from lemonade, 1081—ab
  surgical treatment of, 715—ab, 800—ab
Science, newspapers as guide to, 1667-ab
  recent advances in, and bearing on medicine and surgery, 1553—ab
Sciences, fundamental, teaching of, 1620
Sclerosis, acute disseminated, 628—ab
  coronary artery, 1465—ab
  incipient multiple, importance of *disturbances in optic nerve in, 1470—ab*
  insular, 1036—ab
  middle-ear, 364—O
  multiple, diagnosis of, 949—ab
  multiple, optic nerve changes in, 120—O
  of lymphatics corresponding to arteriosclerosis, 1475—ab
Scoliosis and rachitis, 798—ab
Scopolamin, 1511
Scopolamin-morphin and chloroform anesthesia, 1377—ab, 1468—ab
  anesthesia, 714—ab
  anesthesia in gynecology, 267—ab
  in obstetrics, 175—ab, 177—ab, 1827—ab
Scorbutus, pathology and anatomy of, 1913—ab
Scotch lunacy administration, fifty years of, 2084—ab
  rub, 1699
Scotland, fighting tuberculosis in, 685
Screw apparatus to promote healing of fractured patella, 1381—ab
Scurvy, infantile, 257—ab, 259—ab
  infantile, causation and treatment of, 1907—ab
Sea sickness and pelvic pathology, 2190—ab
  water in tuberculosis and other diseases, 2075—C
Seborrhea and its sequelæ, 1281—ab
Secretaries, state, and editors of state journals, association of, 145
Secretion from pancreas fistula and influence on it of antidiabetic diet, 1380—ab
  internal, reciprocal action of glands with, 1475—ab
  special, in testicles, indications of, before puberty, 2085—ab
Self-repair, therapeutics of, 708—ab
Seminal vesicle or prostate, inflamed, determination of gonorrheal in*fection in, 1108—ab*
Senn, Nicholas, in memoriam, 961—O
Sensation, phrictopathic, significance of, 792—ab
Sensism and cognition, 1552—ab
Sensory impulses in spinal cord, course of, 163—ab
Sepsis, bacterial vaccines in, 792—ab
  meningococcus, 1561—ab
  postoperative, as important lethal factor, in amebic abscess of liver, 1821—ab
  puerperal, 2094—ab
  puerperal, major operations in treatment of, 952—ab
Septicemia in human plague, experiments on infectivity of excreta, 628—ab
  secondary cancer, 2236—ab
  tuberculous, subacute forms of, 873—ab
  with acute fibrinopurulent pericarditis, and hypopyon iritis caused by meningococcus, 1903—ab
Septum, nasal, typical *crest-shaped* deflection of, 222—O
Sera, fresh animal, in hemorrhage, 432—ab, 437—ab
  normal, antagonistic power of, 1469—ab
Serious illness, what constitutes, 72
Serodiagnosis in hereditary syphilis, 1602—E
  in inherited syphilis, fixation of complement in, 1911—ab
  in mothers of infants with inherited syphilis, 876—ab
  of staphylococcus affections, 2194-ab
  of syphilis, 13—ab, 87—ab, 824—O, 876—ab, 878—ab, 944—ab, 1285—ab, 1602—E, 1895—ab, 1911—ab, 1994—ab, 2009—ab, 2011—ab, 2096—ab, 2149—O
Serodiagnosis of syphilis, and mental affections, 1285—ab, 1894—ab
  of syphilis, comparison of alcoholic and watery extracts in, 2149—O
  of syphilis, technic of, 953—ab, 1117—ab
  of tuberculosis, 1362—ab, 1756—O
Serotherapy and prognosis, under various forms of therapy, of cere*brospinal meningitis, 1371*—ab
  in meningococcus hydrocephalus, 65—ab
  in tuberculosis, and endobacillary albuminoids, 1740—ab
  new generalization in, 172—ab
  of carcinoma, 1488—O
  of cerebrospinal meningitis, 15—O, 21—O, 65—ab, 66—ab, 269—O, 1184—ab, 1193—ab, 1315—O, 1318—O, 1371—ab, 1645—ab, 1819—ab, 1907—ab, 1913—ab, 2191—ab, 2234—ab
  of gonorrheal vulvovaginitis in children, 169—ab, 1298—O, 1301—O
  of meningococcic meningitis, 1819—ab
  of nephritis, 1738—ab, 1823—ab
  organic, 1546—ab
  present status of, 1902—ab
  prevention of fatal intoxication following, 1158—E
Serous cavities, diagnostic value of cytologic examination of tuberculous effusions in, 1898—ab
Serum and urine of syphilitics, complement-binding substances in, 1142—O
  antigonococcus, 105—O, 161—ab, 1900—ab
  antigonococcus, in gonorrheal arthritis 674—O
  antimeningitis, use of, 15—O, 21—O, 65—ab, 66—ab, 269—O, 1184—ab, *1193—ab, 1315—O, 1318—O, 1645*—ab, 1819—ab, 1907—ab, 1913—ab, 2191—ab, 2234—ab
  antitoxic, preventive injections of, in tetanus, 173—ab
  beef, in ophthalmia neonatorum, 876—ab
  blood phagocytosis in, when mixed in vitro with horse serum, 951—ab
  Cuguillere's, 1990
  Deutschmann's, against infectious diseases, 438—ab
  diagnostic significance of antitryptic power of, 2009—ab
  disease as clinical manifestation of anaphylaxis, 709—ab
  horse, abnormal reactions, in serotherapy of cerebrospinal meningitis, 2191—ab
  horse, anaphylaxis to, 840—O, 1184—ab
  horse, hot, in treatment of burns, 229—ab
  human blood power in cancer, 83—ab
  human, in cerebrospinal fever, 1085—E
  human, rabicidal properties of, after antirabic treatment, 78—ab
  immunization, and tuberculo-toxoidin, 1446—ab
  Maragliano's, 1360—ab
  Maragliano's untoward effects following use of, 2188—ab
  Marmorek's, in joint tuberculosis, 342—ab, 1553—ab
  Marmorek's in surgical tuberculosis, 1474—ab, 1913—ab
  normal, opsonins in, specificity of, 256—ab
  normal, thermolabile and thermostabile opsonic substances in, interaction of, 256—ab
  of animals, presence of nephrotoxic substances in, with experimental nephritis, 1903—ab
  of scarlet fever patients in syphilis serum test, 1470—ab
  sickness from antitoxin treatment of tetanus, 97—ab
Sexual hygiene, 710—ab
Services, contracts and compensation for, 1637—ab
Sewage and water, committee on standard methods of chemical analysis of, 942—ab
  disposal, 1244
  filter effluents, stability and putrescibility of, 942—ab
  may not drinking water when polluted with, be one medium of *dissemination* of tubercle bacillus? 380—O
  purification, Hampton interpretation of operation of, 1111—ab
Shock and its treatment, 1905—ab
  can operation be done for extrauterine pregnancy *during?* 2009—ab
  nature of, 1462—ab
Shock, heart in, 69—ab
  or fright, liability for, Ohio against, 1729—ab
  surgical, 165—ab
  surgical, production and control of vascular atony of, 1377—ab
Shoemakers' last, new form of, and balance, 431—ab
Shoulder joint, fracture-dislocation of, 74—ab
  joint, mechanics of, from an anatomic viewpoint, 527—ab
  joint, periarthritis of, 432—ab, 1639—ab, 1730—ab, 1815—ab, 1901—ab, 2234—ab
  paralysis of, 525—ab
Shoulders; stiff and painful, subdeltoid or subacromial bursitis, 432—ab, 1639—ab, 1730—ab, 1815—ab, 1901—ab
Sialolithiasis, 1599—O
Sick benefit society, medical council conflicts with, 51
  principles of feeding, 955—ab
Sickness, monthly, as evidence of age, 2232
Sigmoid, acute diverticulitis of, with *operation before rupture, 543—O*
  and rectum, cancer of, surgical treatment of, 167—ab
  and rectum, new position for diagnosis and treatment of diseases of, 1134—O
  and rectum, prolapse of, following hysterectomy, 1125—O
Silver, nitrate, in typhoid, 1281—ab
Simulation, hypochondria, neurasthenia and hysteria, *distinction between,* 784—ab
Singers' nodules in larynx, etiology and treatment of, 1040—ab
Sinus, external frontal, operation on without deformity, 452—O
  of first branchial cleft, 1033—ab
  pilo-nidal, 316—O
  sphenoid, 2103—O
  sphenoid, empyema of, radical operation for, 2108—O
Sinuses, adjacent, and orbit, mixed streptococcus and pneumococcus infection of, 1905—ab
  and abscesses, tuberculous, prevention, diagnosis and surgical treatment of, 1540—ab
  frontal and ethmodial, perforation of empyema in, into orbit, typical complication of scarlet fever, 1648—ab
  nasal accessory, orbital complications in disease of, surgical treatment of, 299—O
  lateral and superior longitudinal, thrombosis of, complicated by pregnancy, 997—O
  tuberculous, bismuth paste treatment of, 860
  tuberculous, treatment of, 342—ab, 709—ab, 1552—ab
Sinusitis, antral, relation of, to hay fever and asthma, 352—ab
Skeleton, bony, influence of suprarenals on, in osteomalacia and rachitis, 1377—ab
  rachitic changes in, in ancient times and middle ages, 1474—ab
Skiagrams and new orthodiascope, demonstration of, 1904—ab
Skin, arsenic in diseases of, 259—ab, 1482—O
  blastomycosis of, 67—ab
  carbon dioxid snow in lesions of, 356—ab, 1037—ab
  dermolysis an undescribed dissolution of, 710—ab
  diseases in children, 1973—ab
  epitheliomas, unusual forms of, 1398—O
  eruption, specific, in pneumonia, 2190—ab
  grafting, 1185—ab
  hygiene of, 1895—ab
  infection in tuberculosis, 1254—ab
  infection of, prevention of during operation, 621—ab
  inoculation of tuberculin in tuberculosis, 1253—ab
  integumental tuberculin reactions, with report of Moro inunction reactions, 1271—ab
  lesions, 249—ab
  method of sterilizing, for operations, 2012—ab
  nevi and other lesions of, carbon dioxid snow in treatment of, 356—ab
  of guinea-pig, transplantation of, into different species, 158—ab
  painful zones in, in disease of viscera, 944—ab
  reaction to diphtheria antitoxin, 1510—O
  reaction to tuberculin, 873—ab, 1192—ab, 1362—ab; 1741—ab, 1756—O, 1912—ab
Skin reaction to tuberculin during measles, 798—ab
  reaction to tuberculin in children *and infants,* 540—ab, 1627—ab, 1912—ab
  reaction to tuberculin on two hundred postmortems on children, 1361—ab
  removal of gunpowder grains from, 1716
  syphilis, diagnosis of, 791—ab
  therapeutic action of adrenalin applied to, 1908—ab
  tuberculosis, x-ray in, 261—ab
Skull, extensive syphilitic necroses of. easy way for removing, 872—ab
  fracture of base of, with diastasis of left temporo-parietal articulation, ending in complete recovery 1818—ab
  fractures, injuries of cranial nerves from, 271—O
  hyperalgetic zones after injuries of, 448—ab
Sleeping, outdoors, in asthma and other chest troubles, 354—ab
Sleeping-sickness; agreement with Germany, 1244
  bureau, first report of, 1984
  diagnosis of, from examination of blood, 1185—ab
  new commission on, 419
Smallpox and cholera in Philippines, 1021
  in Philippines, 1021
  mercury and chalk in, 2191—ab
  present management of, in Minnesota, 2001—ab
  prevention of, 939—ab
  quarantine of, 2151—O
Smell and taste, cerebral centers for, and uncinate group of fits, 879—O
  subjective sensations of, and their significance, 1186—ab
Smoke, bituminous coal, its chemistry and effects on health of man and plants, and on works of art and commerce, 1815—ab
  coal, abatement society, 1345
  nuisance, 1111—ab, 1340—E
Snake poisoning in United States, 132—E, 947—ab
Snoring, mouth-breathing etc., 793—ab
Soap, antiseptic powder of, 517
  concretions in cholelithiasis, 674—O
Social evil, effective method of dealing with, 1634—ab
Society and malnutrition, 1278—ab
Sodium cacodylate in skin diseases, 1482—O
  carminate, indigo carmin and methylene blue, kidney secretion of, 1108—ab
  chlorid content of blood and other body fluids, determination of, 478—O
  nitrite in pulmonary hemorrhage, 869—ab
  perborate, 857—O
  saccharate solution, tonic action of by rectum, 87—ab
  salicylate in sympathetic ophthalmia with, 1652—ab
  succinate, caulophyllum and apocodein, uses of, 692
  succinate in gallstones, 933
Solution of salts, physiologically isotonic, experiments toward, 752—O
Somnoform, safety of, 1799
Sore throat, serious epidemic of, traced to milk, 58—ab
South America, plague in, 138
South-Carolina medical news, 926, 2067, 2167
  state board June report, 1099
South-Dakota, McCormack's tour of, 1025
  medical news, 853, 1089, 2167
South, prosperity of, problems in medicine which affect, 1805—ab
Southern Medical Journal, 234
Spasm in children and lime metabolism, 874—ab
Spasms, control of, by asphyxiation, 1278—ab
Spätapoplexie, 164—ab
Specialist, title of, 1167
  and metropolitan institutions, country physician's relations with, 433—ab
Specialities, elegant, 1880
Specific gravity and volume of organs, 1816—ab
Spectacle frames, *adjustment* of, for infant, 1565—ab
Speculum, ear, with handle, 1330—O
Speech disturbances in children, general pathology and symptomatology of, 798—ab
Spermatozoa, *motility of, in epididymis,* 1424—O

Sphenoid, ethmoid and antrum, submucous resection of lateral nasal wall in chronic empyema of, 1136—O
Sphincter control, colostomy by new method with attempt at, 2093—ab
preservation of, in excision of rectum for cicatricial stricture by combined method, 1282—ab
Sphincters urethral and vesical, suture of, for incontinence of urine, 101—ab
Sphygmobolometer, examination with, 175—ab
Sphygmomanometroscope, universal, 2?54—ab
Sphygmomanometry, simple device for facilitating, 919—O
Sphygmotonograph and its findings, 1475—ab
Spinal anesthesia, 450—ab, 716—ab
and Cesarean section 176—ab
in gynecology, 716—ab
Spinal cord course of sensory impulses in, 163—ab
gunshot wounds of, operative treatment of 1471—ab
rupture of, survival after, 235
surgery, diagnosis in, 1818—ab
transverse severing of at third dorsal vertebra, 449—ab
tumors, prognosis of, with operation, 164—ab
Spine lateral curvature of etiology and treatment of, 526—ab
typhoid, 528—ab
Spirochæta duttoni, characteristic of, 2187—ab
Spirochæta pallida, clinical value of, in diagnosis and treatment of syphilis, 1925—O, 2034—O
demonstration of, by method of dark field illumination, 705—ab
presence of, in syphilitic placenta, 2004—ab
Spirochetes in lungs, 1885
Spirosal, 1513
Splanchnoptosis, rational treatment of 1550—ab
Spleen enlargements of, other than leukemic, 1736—ab
hydatid cysts of, 873—ab
injuries surgery of, 1458—ab
method of encapsulation of, 1458—ab
subcutaneous rupture of, 790—ab
Splenectomy, 790—ab
in Banti s disease, 260—ab
splenic anemia and recovery, 866—ab
Splenomegaly, splenectomy in, 260—ab
Splint, improved Hodgen, for fractures of thigh, 167—ab
intranasal, and combined bridge, for depressed deformities of nose, 1421—O
Splintage, direct and internal, by operation in fractures of forearm bones, 1379—ab
Spondylose rhizomelique, nervous system in 463—O
Sponge, gauze, intestinal obstruction by, 841—O
to prevent leaving one in abdomen 1355—ab
Spores developed at an elevated temperature 2000—ab
Sporotrichosis 500—E
Sprains treatment of, 170—ab
Sputum, an error sometimes made in examining for tubercle bacilli, 2055—ab
glycogen in, diagnostic significance, 1561—ab
stained specimens of, diagnosis of influenza from morphologic standpoint in, 166—ab
tuberculosis with and without tubercle bacilli, 1828—ab
Squirrels ground, plague in, 1349—C
Stain, Hasting's, for blood, technic of, 2230
Stap[illegible] and sapro-
[illegible] 1256—ab
[illegible] serodiag
[illegible] of, [illegible]4—ab
infection of genitals, 2008—ab
infection puerperal, 515—ab
Starch and laudanum enema, formula of, 1619
Starches importance of, in infant feeding 1630—ab
State board reports, 695
requirements of preliminary education 604
statistics errata in, 152
State, duty of, to physician, 1727—ab
society, work of one, 241
State municipalities and medical education 696—E
Static brush discharge concentrated to blue pencil point, 1890—ab
Statistics, vital, 2051—O
Statistics, vital, and public health, 249—ab
vital, lack of, 413—E
vital, registration of, 2212—O
vital, registration of, in Pennsylvania, 133—E
Status lymphaticus in tonsil and adenoid operation, 1185—ab
Steamships, drinking water on, 2191—ab
Stearns, Frederick & Co, patent medicine vendors, 237
Steinhof lunatic asylum, 2171
Stenosis and tumor, ileocecal tuberculosis causing, pathology and therapy of, 209—ab
congenital hypertrophic, and spasm of pylorus in infancy, 708—ab
congenital, of pylorus in adults, 536—ab
congenital pyloric, 532—ab, 708—ab, 784—ab, 1284—ab, 2197—ab
congenital pyloric, recognition and internal treatment, 2197—ab
esophageal, further aid in diagnosis of, 1640—ab
laryngeal treatment of including intubation by dorsal method, 621—ab
mitral and relative insufficiency of pulmonary valves, 2196—ab
Sterilization of rubber gloves, 1117—ab
of skin for operation, 2012—ab
Sternomastoid treatment of wry neck by lengthening, 1190—ab
Stimulants in pediatrics, indication for, 257—ab
used in cooking, 1185—ab
Stockholm, medical historical exhibition at, 328
Stomach, abnormal motility of, valuable factor in diagnosis of gastric lesions, 1106—ab
affection, pneumococcus, 875—ab
and bowel disturbances, commonly overlooked causes for, 1290—ab
and colon pathology of fistula between, 448—ab
and duodenum, benign diseases of, late results after operations for, 260—ab
and duodenum, direct visual inspection of, and diaphanoscopy, 1476—ab
and duodenum, round ulcer of, 533—ab
and intestinal gases, 1462—ab, 1549—ab
and uterus 1005—O
Cancer and carcinoma of See Gastric Cancer
changes in chemistry of, after gastroenterostomy, 1910—ab
content, analysis of, after gastroenterostomy, 625—ab
content, hemolytic substances in and their importance in diagnosis of gastric carcinoma, 2097—ab
content, importance and significance of chemical examination of after test meal, 710—ab
content, occult blood in, and early [illegible] gastrointes[illegible] ab
[illegible] of, and [illegible] pancreatic secretion from, 1380—ab
dilatation, acute, of, 1192—ab, 1424—O
dilatation of, 67—ab, 68—ab, 2188—ab
dilatation of, and position differentiation and treatment of atony, 2007—ab
dilatation of volvulus of, 1616—C
diseases of doubtful nature, plea for early exploratory laparotomy in, 624—ab
diseases oil in, 2009—ab
disorders, modern surgery in relief of, 792—ab
functioning, neutral red soup test of, 1351—ab
hourglass, in children, 1472—ab
infantile, development of, 1750—O
inflation of, and lavage, rapid test meal removal, 1250—ab
lavage and test meal removal, device for facilitating, 673—O
microchemical test for mucus in, 2099—ab
motor functions of, (a) in normal cases, (b) after gastroenterostomy, as demonstrated by x rays 710—ab
mucous membrane of, diagnostic value of perverted secretion of hydrochloric acid by, 1635—ab
mucous membrane, direct inspection of, 795—ab
neurose, 74—ab
overdistention and overwork of, when food is eaten too rapidly, 713—ab
Stomach polyps in, 448—ab
protection of, against autodigestion, and antipepsin for treating gastric ulcer, 1558—ab
secreting functions, influence of hydrogen dioxid on, 1910—ab
secretion, influence of nutritive enemata on, 315—O
secretion and salt, 537—ab
secretion of, in old age, 349—ab
surgery 1822—ab
tests, functional in diagnosis of ulcers of stomach 1114—ab
Stomatology, educational requirements and opportunities in, 7—O
Stone See Calculus
Stools and urine, toxicity of, and intestinal putrefaction in infants fed on foods rich in albumin, 360—ab
character of, and intestinal findings in diarrheal affections of infants, 1306—O
facilitation of detection of eggs of parasites in, 1193—ab
infant, hard curds of, origin, nature and transformation, 247—ab
normal standards for proportions of constituents of, 1114—ab
occult blood in, and early diagnosis of organic gastrointestinal affections, 83—ab
Stooping, interference with heart action by, 265—ab
Stovain anesthesia 1287—ab
anesthesia, modifications in nervous system after, 955—ab
anesthesia, deaths after, 1190—ab
Strain or relaxation of sacroiliac joint condition of, 1734—ab
Streptococci, hemolytic, in puerperal infection, 1113—ab
virulent hemolytic, differentiation of, 1383—ab
Streptococcus infection of intestinal tract 1236—E
infection of rabbit's ear, experimental hyperemia in, 1913—ab
and pneumococcus infection of orbit and adjacent sinuses, 1905—ab
Striæ atrophicæ as sequel of acute pneumonia 1190—ab
Stricture, cicatricial, excision of rectum for, by combined method, with preservation of sphincter, 1282—ab
impassible of urethra, retrograde catheterization in surgical treatment of, 167—ab
of membranous urethra, 159—ab
venereal, of rectum, surgery of, 1806—ab
Strophanthin, intravenous, treatment, 174—ab
Strychnin sulphate and ergotinin citrate tabloid, 2161
Student s number, London Lancet, 1111—ab
Study trips abroad, medical, 50
Stump old amputation, plastic resection to restore function to, 1909—ab
painful nerve resection for, 333
Styles lead, treatment of strictures of nasal duct with, 1207—O
Suboxidation general, from prolonged unremitting effort, both physical and mental, 1374—ab
Substitution, protection against, 330—O
Suburethral abscess in woman, 797—ab
Sugar and salt solutions, infusion of, in infants 630—ab
determination of, in urine, 774—C
excretion influence of cold and mechanical exercise on, in phlorid zen glycosuria, 350—ab
titration of, rapid and precise determination of terminal reaction in, with Fehling s solution, 1298—ab
Suicide and prophylaxis, 226—E
Sulphate ethereal in urine in gastrointestinal autointoxication, 1822—ab
Sulphite in adnephrin solution (Stearns) report of Council on Pharmacy and Chemistry on, 1524
Sulphocyanates, solvent action of, on lime and magnesium deposits in system, 621—ab
Sulphonal, 1782
Sunlight, excessive, dangers of, in tuberculosis, 1106—ab
sterilizing action of, on hides, 663—ab
Sun rays and artificial heat, classification of effects of, 625—ab
rays, unmodified, in lupus vulgaris, 1521—ab
Superstition how they are reinforced, 761—E
Suppuration, chronic, above tympanum, conservative treatment of, 799—ab
hyperemic treatment of, 1286—ab
Suppurations, acute, criticism of treatment of, by passive hyperemia and cupping, 1640—ab
antiferment treatment of, 2193—ab
Suppurative processes, antiferment treatment of, without incision, 339—ab
Suprarenal alkaloid, presence of sulphite in commercial solutions of, report of Council on Pharmacy and Chemistry on, 1525
and pituitary bodies, extracts of, inhibition of pancreatic activity by, 1642—ab
extract in aortic insufficiency, 450—ab
origin of tumors and hypernephroma of kidney, 1460—ab
preparations in obstetrics, importance of, 630—ab
tissue in kidney, experimental transplantation of, 355—ab, 2095—ab
transplantation, further results in, 640—O
Suprarenals and rachitis, 85—ab
hemorrhage of, in infants, 1964—O
hyperplasia of hypophysis, hypertrophy of heart and arterial hypertension, 796—ab
in puerperal eclampsia and pregnancy nephritis, 81—ab
influence of, on bony skeleton in relation to osteomalacia and rachitis, 1377—ab
lesions of, and chronic nephritis and arteriosclerosis, 2089—ab
tuberculosis of, and congenital syphilis, 176—ab
Surgeon, conservative, and symptomless uterine fibroid, 972—O
country, 784—ab, 1465—ab
General of Army, new, 1786—E
General of Army, report of, for 1908, 1872—E
Surgeons, power of conductors to employ, in emergency cases, 1814
Surgery, American, as it appears to Austrian surgeon, 2171
and medicine, evil tendencies in, 2088—ab, 2234—ab
and medicine of Northwest, organization and centralization of, 1109—ab
and medicine, oxygen in, 626—ab
and medicine, recent advances in science and their bearing on, 1553—ab
and tabes, 796—ab
antiseptic, points in history of, 353—ab
debts which medical science owes to, 352—ab
dental and major, nitrous oxid and oxygen in, 907—O
general, and disease of maxillary antrum, 2007—ab
major, growth and development of, in smaller cities, 433—ab
modern, in relief of stomach disorders, 792—ab
modern achievements of, 1549—ab
of lungs, 801—O, 803—O, 805—O, 808—O, 2193—ab
of uterine adnexa, conservatism in, 786—ab
plastic, of pelvic outlet, 532—ab
prophylaxis in, 789—ab, 794—ab
when shall physician distrust his own judgment in, 620—ab, 868—ab
Surgical affections, zinc gelatin dressings in, 2010—ab
infections, vaccine therapy in, 1535—ab
rights of public, 864—ab, 1037—ab
situation, 1901—ab
Suture, primary, in severe gunshot wounds of lung by, 1471—ab
Sutures, rubber, intestinal anastomosis of mucosæ with, 559—ab
Sweat secretion in high altitude, 101—ab
Sweating, desquamation from, 1328—O
local, in tuberculosis, 225
value of, in internal affection of eye, 1512
Sweden, campaign against tuberculosis in, 1064—E
Swimming tank, menace of, 255—ab
Sydenham, method of, greater than method of laboratory, 1462—ab
Symbiosis, influence of, on pathogenicity of micro-organisms, 582—ab
Symphyseotomy during pregnancy, 1646—ab
Symptomatology of diseases of childhood, 1454—ab

Syncitioma or chorioepithelioma of placenta, 167—ab
Syncytium, its functions and relations to toxemia of pregnancy and to cancer, 947—ab
Syndrome, paroxysmal, probably allied to recurrent vomiting, 2002—ab
Synovial membrane, pathogenesis of ganglia, and structure and development of, 707—ab
Synovitis of knee-joint as late manifestation of acquired syphilis, 1901—ab
Syphilids, local injections of mercury in, 172—ab
Syphilis, 407, 444—ab, 1641—ab, 1644—ab, 2031—O
  Adams-Stokes' syndrome due to, 1475—ab
  and tabes, 634—ab
  clinical value of spirochæta pallida in diagnosis and treatment of, 1928—O
  complement-binding test for, 2096—ab
  congenital, and progressive paralysis, 1561—ab
  congenital, and tuberculosis of suprarenals, 176—ab
  consequences of, 539—ab
  cutaneous, diagnosis of, 791—ab
  diffuse interstitial keratitis in, 292—O, 1905—ab
  etiology, diagnosis and treatment, 1178—ab
  extensive necrosis of skull in, 872—ab
  failure of calomel salve to protect against, 176—ab
  hereditary, 532—ab
  hereditary, aural manifestations, 81—ab
  hereditary, brain findings in infants with, 1912—ab
  hereditary, complement fixation in, 1911—ab
  hereditary, serodiagnosis in mothers of infants with, 876—ab
  hereditary, serodiagnosis of, 1602—E
  in childhood, 438—ab
  in Uganda, 1430—E, 1436
  incubation in, 2094—ab
  inhalation of mercury in, 1289—ab
  intramural injections of salicylate of mercury in treatment of, 793—ab
  is mercury a specific in infectious and contagious diseases as well as in, 1625—ab
  late, mercury for, 1954—O
  late, of uterus, and uterine cancer, diagnosis of, 268—ab
  mercury hypodermically in, 1990
  mineral waters in, 1039—ab
  nervous manifestations of, 1891—ab
  of bone and joints, 947—ab
  of liver, protracted fever in, 1193—ab
  of lungs, 268—ab, 1192—ab
  origin of, and invention of its name, 1729—ab
  paralysis and neuralgia of, 81—ab
  placental, 2004—ab
  presence of complement-binding substances in serum and urine in, 1142—O
  quinin in, 84—ab
  reinfection with, 790—ab
  synovitis of knee joint as late manifestation of, 1901—ab
  serodiagnosis of, 13—ab, 87—ab, 824—O, 876—ab, 878—ab, 944—ab, 1285—ab, 1602—E, 1895—ab, 1191—ab, 1994—ab, 2009—ab, 2011—ab, 2096—ab, 2149—O
  serodiagnosis of, and mental affections, 1285—ab, 1894—ab
  serodiagnosis of, comparison of alcoholic and watery extracts in, 2149—O
  serodiagnosis of, in insane, 2008—ab
  serodiagnosis of, in obstetrics, 798—ab
  serodiagnosis of, technic of, 953—ab, 1117—ab
  serum test, behavior of serum of scarlet fever patients in, 1470—ab
  spirochæta pallida in, influence of discovery of, 1928—O, 2034—O
  tabes dorsalis and paralysis in light of recent research on, 1558—ab
  tertiary, after thorough mercurial treatment, 541—ab
  tertiary visceral, intermittent or prolonged fever with, 1193—ab
  women with, antibodies in milk of, 1409—ab
Syphilitic crises simulating surgical emergencies, 1805—ab
Syphilitics, evolution and treatment of tuberculosis in, 1822—ab
Syringe, Luer glass hypodermic, method of removing plunger from, 572—O
Syringomyelia and dystrophy, 1913—ab
  in case of cerebellar symptoms with hydrocephalus, 1933—O

SOCIETIES.

Abbreviations:
  Acad.—Academy.
  Am.—American.
  A.—Association.
  Conf.—Conference.
  Cong.—Congress.
  In ernat.—International.
  M.—Medical, Medicine.
  Pharm.—Pharmaceutical.
  S.—Society.
  Surg.—Surgical, Surgery, Surgeons.

Am. Acad. of M., 339, 429
Am. A. for Cancer Research, 158, 251
Am. A. of Genitourinary Surg., 159
Am. A. of Obstetricians and Gynecologists, 1174, 1354, 1456
Am. Electrotherapeutic A., 1890
Am. Gynecological S., 69
Am. Hosp. A., 1445
Am. Neurological A., 68, 163
Am. Orthopedic A., 342, 430, 525
Am. Pediatric S., 65, 155, 246
Am. Pharm. A. N. W. Branch, 1631
Am. Public Health A., 938
Ark. M. S., 248
Boston M. Library Meeting, 2183
Colo. M. S., 1176, 1271
Conn. M. S., 337
Hennepin Co. (Minn.) M. S., 1631
Idaho M. A., 1535, 1634, 1809
Internat. Antiquackery Conf., 1611
Internat. A. of M. Museums, 1345
Internat. Cong. for Repression of Adulteration of Alimentary and Pharmaceutical Products, 509
Internat. Cong. of Ophthalmology, 1166
Internat. Conf. on Tuberculosis, 684, 1021, 1175, 1268, 1343, 1357
Internat. Cong. of Urology, 1522
Internat. Cong. on Thalassotherapy, 1614
Internat. Cong. on Care of Insane, 1709
Internat. Cong. for M. Electrology and Radiology, 2069
Internat. Cong. on Tuberculosis, 234, 513, 684, 769, 927, 1019, 1021, 1084, 1090, 1173, 1252, 1340, 1359, 1369, 1446, 1537, 1602, 1625, 1725, 1811, 1895
Internat. Esperanto M. A., 1791
Internat. First-Aid and Life-Saving Cong., 418
Internat. M. A. of Mexico, 1529
Internat. M. Cong., 138, 616, 774
Ky. M. A., 1353, 1453, 1544
Mass. M. S., 431
M. Library A., 435
Mich. M. S., 698, 784
Mich. M. S. Co. Secretaries A., 2175
Miss. Valley M. A., 1535, 1633, 1724, 1805
Neb. M. A., 66
N. H. M. S., 161, 244, 344
N. J. M. S., 620, 699
N. Y. Acad. of M., 1995
N. Y. Neurological S. 1893
N. D. M. A., 340
Nevada M. A., 2166
New England Pediatric S., 2168
Pa. M. S., 1178, 1270, 1356, 1455, 1541, 1629
Philadelphia Co. M. S., 71, 1543, 2182
R. I. M. S., 341
Southern M. A., 1805, 1891, 1993, 2079
Southwest M. A., 1536, 1632, 1726,
Va. M. S., 1624, 1722, 1807
Wis. M. S., 523, 703

T

Tabes-dorsalis, 440—ab
  and general paralysis, pathology and treatment of, 2093—ab
  and paralysis in light of recent research on syphilis, 1558—ab
  and surgery, 796—ab
  and syphilis, 634—ab
  arterial pressure in, and its modification by gastric crises and lightning pains, 1738—ab
  Denslow cure for, 1339—E
  diagnosis of, 777—ab
  eye crises in, 1474—ab
  improvement of peripheral centripetal neuron in, by Frenkel's exercise-therapy, 955—ab
  lancinating pains in head in, 1913—ab
  laryngeal crises and paresis of abductors of vocal cords as important early symptom of, 815—O
  mercury in, 1290—ab
Tabes-dorsalis, muscular re-education in, 239
  pathogenesis of, 866—ab, 1378—ab
  treatment of, 1915—O
Tabes mesenterica, 1364—ab
Table utensils, possibilities of tuberculous infection from, at sanatoria, 1254—ab
Tablet, abuse of, 2228
  compounding, limitations of, 330—O
Tachycardia, paroxysmal, 1914—ab
Taint in miscured hams, nature and causes of, 353—ab
Tapeworm, treatment of, 872—ab
Taste and smell, cerebral centers for, and uncinate group of fits, 879—O
Teachers, compulsory study of hygiene by, 1358—ab
Teeth, anatomic and pathologic conditions of maxillary antrum in relation to, 2097—ab
  changes in, trigeminal neuralgia from, 266—ab
  of school children, 1601—E
  permanent, rachitic erosions of, with lamellar cataract, 1130—O
Telephone and motor car vs. ataxis traction forceps, 1555—ab
Temperature, body, in healthy and sick infants, daily variations in, 1116—ab
  coefficient of velocity of nerve conduction, (73) 350—ab
  differences in, in axillæ in acute appendicitis, 1193—ab
  influence of, on calf vaccine, 2182—ab
  unilateral higher, occurrence and significance of, in lung affections, 1650—ab
Tenaculum, uterine, 1695—O
Tendons, suture of, 876—ab
Tennessee democratic convention adopts public health planks, 425
  medical news, 49, 232, 853, 1344, 1435, 2068, 2168
  state board May report, 781
Tenotomy of psoas magnus, psoas parvus and iliacus in spastic spinal paralysis, 1826—ab
Tents and drains, intrauterine, 716—ab
  dispensing with, 1828—ab
Teratomas, solid, of ovary, 1744—ab
Test: See also Tests.
  improved, for quantitative estimation of albumin in urine, 333—ab
  meal, importance and significance of chemical examination of gastric contents after, 710—ab
  meal removal and gastric lavage, device for facilitating, 673—O
  neutral-red soup, of stomach functioning, 1381—ab
  phloridzin, of kidney functioning, 177—ab
  precipitin, for human blood, 779
  Rivalta's, differentiation of exudates from transudates by, 956—ab
  simple typhoid agglutination, 1374-ab
  Wassermann: See Serodiagnosis of Syphilis.
Testicle, cancer of, condition of glands in, 873—ab
  tuberculosis of, 1539—ab, 1844—ab
  tuberculosis of, diagnosis and indications for operation, 867—ab
  tumors of, 253—ab, 410—E
  undescended or maldescended, treatment of, with inguinal hernia, 1372—ab
  undescended, surgical treatment of, 952—ab, 1372—ab
Testicles, indication of special secretion in, before puberty, 2085—ab
  translocation of, 1377—ab
Testimonial, alleged, damages for use of, 1086—E
Testimony by patient not waiver of privilege, 1030
  expert, in injury cases, drawing line as to what may be basis of, 1548—ab
  medical expert, 620—ab
Tests, Barany's, application of, to deaf mutes, 2007—ab
  hemolytic, for malignancy in human beings, 158—ab
  hemolytic, for malignancy in human beings, 158—ab
  kidney, functional, 87—ab, 1741—ab, 1827—ab, 1885
  scientific, of pharmacologic preparations, are physicians justified in taking pay from manufacturing chemists for? 2011—ab
Tetanus and Fourth-of-July injuries, 841—O
  antitoxin treatment of, serum sickness from, 97—ab
  magnesium sulphate in, 530—ab
  prevention and treatment of, 699—ab, 1553—ab
Tetanus prophylaxis, preventive injections of antitoxic serum in, 173-ab
  toxin, attraction of, to lipoid substances, 355—ab
  toxin, neutralizing action of cholesterin on, 147—ab
  treatment of, 1651—ab
  treatment of, on basis of experimental and clinical studies, especially attraction of tetanus toxin to lipoid substances, 355—ab
Tetany, familial, 1474—ab
  in infant four days old, 755—O
  pregnancy, experimental and clinical study of, 877—ab
  with autopsy findings, 1912—ab
Texas examining boards, 1350
  medical news, 49, 233, 835, 1435, 2225
  state board June report, 1718
  progress of medicine in, 259—ab
Thalassotherapy, congress on, 686, 1614
Therapeutic observations, 1490—O
  principle, protection as, 1891—ab
  renaissance, 1727—ab
Therapeutics, 534—ab
  and diagnosis, lumbar puncture in, 1566—O
  drug-store, 421—O
  Dujardin-Beaumetz on problems of, a quarter century ago and to-day, 421—ab
  of self-repair, 708—ab
  physical, 1902—ab
  suggestive, 1546—ab
Therapy: See Treatment
Thigh, fractures of, improved Hodgen splint for, 167—ab
Thimble and dissector for surgeons, 40—O
Thomsen's-disease, study of, by sufferer from it, 2091—ab
Thoracostomy in heart disease, 442-ab
Thorax and abdomen, access to wounds involving, 1285—ab
  and abdomen, inflammatory conditions of, differentiated from appendicitis, 441—ab
  and abdomen, interrelations of diseases of, 444—ab
  and abdomen, penetrating wounds of, 625—ab
  open, apparatus for artificial respiration with, 2198—ab
  new growths in, 870—ab
  paralyzed, cyrtometer tracing showing changes in shape of, 795—ab
  surgery, present status of, 803—O, 805—O, 808—O
  tumors of, with abdominal symptoms, 2080—ab
  wall of, total mobilization of, and release of lung, in unilateral pulmonary tuberculosis, 1909—ab
  x-ray inspection of, in dyspnea patients, 874—ab
Thoroughness, 409—ab
Throat, acute inflammations of, 1783
  acute inflammations of, local treatment of, from standpoint of pathology, 165—ab
  and eye affections, and affections of nose and accessory cavities, 1471-ab
  and nose, chronic infections of, systemic effects of, 1806—ab
Thrombo-angiitis obliterans, 1902—ab
Thrombophlebitis and puerperal peritonitis, operative treatment of, 630—ab
Thrombosis and embolism, warning symptoms of, 1013—ab
  brachial, causing ischemic contracture with secondary ulnar neuritis, 2059—O
  cerebral and ocular complications of anemia, 1378—ab
  embolism, postoperative, 355—ab
  of posterior inferior cerebellar artery with autopsy revealing lesion in medulla, 163—ab
  of superior longitudinal and lateral sinuses complicated by pregnancy, 997—O
  portal, etiology of, 450—ab
  prophylaxis of, 1827—ab
Thymus and asthma, 360—ab
  and pexohthalmic goiter, 356—ab, 2220—E
  death, mechanical, 2191—ab
  investigation into function of, 952-ab
  involution of, 1744—ab
  persisting, importance of, in exophthalmic goiter, 1289—ab
  treatment of disturbances in growth of children, 450—ab
Thyroid and iodin, 73—ab
  and parathyroids, 25—O
  extract in epilepsy and migraine, 625—ab
  feeding and complete thyroidectomy, influence of, on phases of intermediary metabolism, 1731—ab

Thyroid preparations commercial, and standardization of thyroid, 1365—O
rheumatism, 713—ab
substances action of, 1470—ab
surgery, and psychic factor in exophthalmic goiter, 1375—ab
transplantation of, 1286—ab
Thyroidectomy complete, and thyroid feeding, influence of on phases of intermediary metabolism, 1731—ab
effects of on mammalian pituitary body, 2084—ab
partial, in exophthalmic goiter, 1110—ab
Thyroidism and exophthalmic goiter, blood findings in, 1558—ab
Thyroiditis acute non suppurative, 1826—ab 1381—ab
Tibia and fibula, compound comminuted fracture of, treatment of, 2057—O
compound comminuted fractures of, 1542—ab
lower epiphysis of, fracture of, 431—ab
Tick Fever See Sleeping Sickness
Timbers death after fall against and what constitutes infection, 705—ab
Tinnitus, painful division of auditory nerve for, 1645—ab
Tissue, embryonic, resistance of, to freezing 1701—E
Tobacco and eyes, 76—ab
and heart, 76—ab
question, aspects of, 349—ab
Toe hammer, treatment of 1838—ab
Toldt, Professor, resignation of, 51
Tongue and mouth, cancer of, 1730—ab
black hairy, 2092—ab
Tonsil and adenoid operation, status lymphaticus, and anesthesia in, 1185—ab
and pleura, lymphatic connection between, 1160—E
applied anatomy of, 1277—ab
chronically inflamed tissue, importance of diagnosis and treatment, 86—ab
forceps, 1696—O
from evolutionary point of view, 706—ab
tuberculous faucial, 2005—ab
Tonsillitis, scarlet fever, and diphtheria, pyocyanase in, 1288—ab
Tonsillectomy, painless and adenectomy with quinin anesthesia, 496—O
Tonsils and adenoids diseased, pathology and treatment of, 352—ab
removal of, under local anesthesia, 1185—ab
Toothache, 275
remedy, efficacious, 424
Torticollis, treatment of, by lengthening sternomastoid, 1190—ab
Touch, value of, sense of, in operating, 1560—ab
Toxemia acute, after chloroform anesthesia, 785—ab
from standpoint of perverted metabolism, 1184—ab
in infant simulating cerebral hemorrhage, 1932—O
obstetric, septic and anesthetic, 741—O
of pregnancy, history of literature of 1284—ab
of pregnancy, functions and relations of syncytium to, and to cancer, 947—ab
Toxemias of pregnancy, 1818—ab
of pregnancy, diagnosis and treatment 787—ab
of pregnancy etiology and pathology, 787—ab
Toxin eclampsia attempt to determine, by experiment, 359—ab
Tracheotomy, ultimate results of, 539—ab
Trachoma and public weal, 1357—ab
Traditions of medicine, unreasonable, 707—ab
Transfusion of blood, healing of experimental tumors by, 128—E
test to determine adaptability of donor's blood to receiver's in, 947—ab
venous after expulsion of blood local anesthesia of limb by, 1040—ab
Transillumination of orbit from nasopharynx examination of fundus of eye by, 356—ab
Transplantation of blood vessels and organs, permanent results of, 2114—ab
of blood vessels organs and limbs, 1652—O
Transudate and exudate differential diagnosis between, by Rivalta test, 718—ab, 956—ab
Trauma, anatomic findings in epilepsy after, 1472—ab
arrest of hepatic hemorrhage due to, 1731—ab
intracranial non penetrating, question of operation for, 790—ab
slight, of joints, clinical and medicolegal significance of, 2211—O
Traumatism as etiologic factor in appendicitis 1110—ab
of brain 1818—ab
Traumatisms of biliary passages operative treatment of, 1285—ab
severe, and fractures, 300 consecutive cases of, 257—ab
Treatment case, ophthalmic, pocket emergency 1010—O
drug vs osteopathic, 2135—O
medicinal, of disease sufficiency of official drugs and preparations in, 1477—O
of disease, progress in, 248—ab
pathology and anatomy of chronic endometritis, 2193—ab
Trephining, palliative, for choked disc, 1473—ab
Treponema pertenuis (Castellani), of yaws and experimental production of disease in monkeys, 950—ab, 1187—ab
Tribunal of honor, Prussian medical, decisions of, 50
Trichiasis, treatment of, 946—ab
Trichinosis and eosinophilia, 78—ab
from boiled ham, 1802—ab
Trional, 1783
Tropical diseases and Mississippi Valley, 1550—ab
Tropics health in, 712—ab
mosquito destruction in, 2203—O
white race in 412—E
Trunk and abdomen, body elevator and support for operations on, 126—O
Trypanosome infections acidity and alkalinity of blood in, 1038—ab
Trypanosomiasis, is it preventable? 1017—E
Trypsin, antitryptic power of blood serum in cancer, 83—ab
Tubercle bacilli See Bacilli
residue, use of, in surgical tuberculosis, 785—ab
Tuberculin, absorbing power of vagina for, 1742—ab
and phlyctenular eye affections, 1383—ab
as adjunct to home treatment of pulmonary tuberculosis, 1031—ab
cutaneous and ocular reactions, 1192—ab, 1362—ab
cutaneous reaction, 540—ab, 1192—ab, 1271—ab, 1361—ab, 1362—ab, 1741—ab, 1756—ab
cutaneous, reaction, during measles, 798—ab
cutaneous, reaction in infants and children, 540 ab, 1627 ab, 1912 ab
diagnosis of tuberculosis, bovine necropsy as object lesson on importance of, 2173—C
diagnostic and therapeutic use of, 530—ab
diluted, skin inoculation of, in diagnosis of tuberculosis in infancy and childhood by, 1627—ab
experimental research on reaction to 84—ab
immunity, 1912—ab
immunization, treatment and prevention of tuberculosis by, 791—ab 1188—ab
in diagnosis and treatment of surgical tuberculosis, 2080—ab
in diagnosis of pulmonary tuberculosis, 349—ab, 1105—ab
in orthopedics, 343—ab, 1553—ab
in pulmonary tuberculosis, 874—ab, 1582—ab 1906—ab
inunction 166—ab
ocular reaction, 82—ab, 191—ab 264—ab, 350—ab, 438—ab 540—ab, 629—ab 1027, 1174—ab, 1192—ab, 1361—ab 1362—ab 1376—ab, 1626—ab 1736—ab, 1756—O, 1816—ab, 1836—O
ocular reaction, cytologic findings in 264—ab
ocular reaction, dangers of, 717—ab, 871—ab, 2011—ab
ocular reaction in guinea pigs infected with human bovine or avian tubercle bacilli, 1901—ab
old absence of reaction to, in persons free from tuberculosis, 264—ab
purposes of, 1360—ab
reaction and nervous system, 1650—ab
reaction from tuberculous chicken, 333
reaction intradermal 2007—ab
reaction, local, in diagnosis, 1470—ab
Tuberculin reaction, Moro, 239, 1271 ab
reaction, percutaneous practical value of, 873—ab
reactions, 1173—ab
reactions, anatomic characteristics of tuberculous infections and their relation to 1449—ab
reactions and nervous system, 1604—E
reactions comparative diagnostic importance of, in children, 1741—ab
reactions diagnostic utilization of, 1475—ab
salve in differentiation and treatment of lupus, 174—ab
specific curative action of, 1360—ab
temporary improvement in leukemia under, 174—ab
therapy new points of view in, 874—ab
treatment, accuracy of tuberculo opsonic index and its value as control to, in pulmonary tuberculosis, 1361—ab
treatment of tuberculosis 1359—ab
treatment of dysmenorrhea and amenorrhea, 2012—ab
urethral reaction to, 1383—ab
what we are trying to accomplish with, 1360—ab
Tuberculins and measure of their activity, 1448—ab
Tuberculinum purum, in treatment of pulmonary tuberculosis, 1448—ab
Tuberculo opsonic index, 1756—O
index, accuracy of, and its value as control to tuberculin treatment in pulmonary tuberculosis, 1361—ab
Tuberculosis, 525—ab, 2233—ab
abdominal, relative frequency of, in Great Britain and United States 1368—ab
acute meningitis due to, in children diagnostic value of lumbar puncture in, 1627—ab
acute simulating typhoid, 1113—ab, 1908—ab
administrative treatment of, 1111—ab
advanced pulmonary, medical treatment of, 1271—ab
among foreign born, 1602—E
among negroes, 1963—ab
anatomic characteristics of, and their relation to tuberculin reactions, 1449—ab
and calculus of kidney, with perinephritic abscess 353—ab
and calculus results of operation on kidney for 353—ab
and cancer, descendants of persons who have died of, 1382—ab
and cancer, hemolysis in, 2036—O
and chronic pleurisy, 1449—ab
and discharged prisoners, 2216—ab
and human and bovine tubercle bacilli 2194—ab
and hypertrophy of lymphoid tissue 1628—ab
and legal rights, 1357—ab
and mental defect 1725—ab
and orthotic albuminuria, 349—ab
and septic conditions of kidney, diagnosis and prognosis of, 791—ab
and social life, 1176—ab
arthritis of hip joint due to, 1537—ab
apical, chrondrotomy for 1911—ab
apical, laws regulating development of secondary affections with, 1825—ab
at high altitude, blood pressure in, 944—ab
attitude of physician to patient in, 78—ab
Bacillus of See Bacillus
bill, 855—ab
bismuth paste in sinuses due to, 860
books on, 691
bovine, campaign against, 1794
bovine, transmission of, to man 423
campaign against, 379
campaign against, in Germany, 1879
causes of decline of mortality from, in Berlin, 712—ab
committee, grant for, 433—ab
comparative importance of treatment of, in sanatoria near at hand and entire change of climate 1173—ab, 1254—ab
comparative pathology of, 2009—ab
conference and exhibition, national, 685
coordination of preventive measures, 1635—ab, 1735—ab
cost of city's ransom 1599—ab
cost of, in United States and its reduction, 1725—ab
cures, alleged, 2229
cutaneous, x ray in, 261—ab
Tuberculosis, dangers of excessive sunlight in, 1106—ab
diagnosis and prognosis of, specific aids in, 1898—ab
diet in, 1255—ab
dispensaries, 1269—ab
distribution of lesions of, in infants and young children, 1368—ab
duration of *actively infectious stage* of, 1173—ab
early cases of, diagnosis and treatment of, 1255—ab
early diagnosis of, 525—ab, 1361—ab
early pulmonary, value of hemoptysis as symptom of, 1255—ab
education in schools, 1358—ab
effusions due to, diagnostic value of cytologic examination of, in various serous cavities 1896—ab
enlargement of heart and liver, early symptoms of, 1253—ab
essay on *Norwegian Danish* translation of, 1960—ab
etiology of, hereditary disposition as factor in, 1448—ab
everyday fight on, 351—ab
evolution and treatment of, in syphilitics, 1822—ab
exhibition in Montreal 1983
experience in sanatorium work, 1896—ab
eye and skin reaction to tuberculin in, 1192—ab, 1362—ab
eye reaction to tuberculin in, 82—ab, 191—ab, 264—ab, 350—ab, 438—ab, 540—ab, 629—ab, 1027, 1174—ab, 1192—ab, 1361—ab 1362—ab, 1376—ab, 1626—ab, 1736—ab, 1756—O 1816—ab, 1836—O
eye reaction to tuberculin in, danger of, 2011—ab
eye reaction to tuberculin in guinea-pigs, 1901—ab
family, 1729—ab
fighting of, by caring for infants, 1246
frequency of, in childhood, 1626—ab
fund of Koch, 1094
general prophylactic measures, 1269—ab
genital, 968—O
graduated work in treatment of, 686
glands, in mesentery, surgical treatment of, 1467—ab
hereditary, intermittent albuminuria of childhood and, 1368—ab
heredity in, 1253—ab
home treatment of, 1277—ab
human and animal, relation between, with reference to transformation of human and other types of tubercle bacillus, 2088—ab
human and bovine, 1110—ab, 1186—ab, 1256—ab, 1258—ab 1644—ab
human and bovine, application of opsonic methods in comparing, 1189—ab
human and bovine conference in camera on, 1239—E, 1262—ab
human and bovine, parallels of, 1546—ab, 1733—ab
hygiene in 249—ab
hygienic requirements for sanatoria, 1269—ab
ileocecal, causing tumor and stenosis, pathology and therapy of, 2095—ab
immunity, 1446—ab, 1447—ab
immunity and intestinal infection, 1729—ab
in childhood, hygienic and climatic prophylaxis of, 1627—ab
in children, pathology of, 76—ab
in children, primary localization of, 1386—ab
in children, relation of infectious diseases to, 1366—ab
in Connecticut, 622—ab
in hospitals for insane, 1897—ab
in infancy and childhood, aid to *diagnosis of*, by skin inoculation of diluted tuberculin, 1627—ab
in infants 1365—ab
in Ireland, crusade against, 50
in limeworkers 2093—ab
in Scotland, campaign against, 655
in Sweden, campaign against, 1084—E
incipient, new methods for diagnosing, 1647—ab
incipient apical chondrotomy of first rib in 449—ab
incipient pulmonary, importance of certain functional and physical symptoms in, 1195—ab
incipient pulmonary, morbid local tenderness a sign of, 1537—ab
incipient pulmonary, x ray detection of, 715—ab
infantile, human contagion as factor in, 1357—ab
inflammatory, and tuberculous rheumatism, 1897—ab

Tuberculosis, influence of overwork and nervous strain in, 1899—ab
infrequency of hemoptysis in children with, 915—ab
inspection, New York bovine, 144—C
internal surgical, Marmorek's serum, 1474—ab
International Conference on, in Philadelphia, 684
International Congress on, 413—E, 513—ab, 684, 762—E, 769, 1090, 1415—E
International Congress on, membership in, 1019
International Congress on, President Roosevelt's address at, 1261—ab
International Institute, 2071
is opsonic treatment useful in? 629—ab
isolation of patients, 1269—ab
joint, influence of weight bearing on, treatment of, 342—ab
joint, treatment of, 709—ab
joint, Marmorek's serum in, 342—ab, 1553—ab
joint, vaccine therapy in, 1625—ab
joint, x-ray diagnosis of, 1542—ab
laryngeal, 866—ab
laryngeal and pulmonary, adjuvants *to nutrition and fresh-air in, 1465*—ab
laryngitis due to, prognosis and treatment of, 1818—ab
latent endothoracal glandular, diagnosis and specific treatment of, in children, 1473—ab
lesions, part of enzymes in, 1448—ab
liver in, 1449—ab
local pigmentation in, 399—ab
local sweating in, 225
marital infection in, 848—E, 1095—C
meningitis caused by, surgical possibilities in, 1363—ab
meningitis due to, clinical manifestations of, 1367—ab
meningitis due to, lumbar puncture, its technic and value of *cytodiagnosis in differentiating*, from epidemic variety, 1819—ab
mercury in, 75—ab, 166—ab, 944—ab, 1108—ab, 1349—, 1851—O, 2187—ab
miliary, in child aged four and a half months, report of autopsy, 1367—ab
mixed infection in, 2047—O
modes of *infection* in, 72—ab
mortality from, in Austria, 236
mortality from, in Great Britain, 1345
movement in various countries, progress of, 1358—ab
municipal sanatorium for, 1523
new methods of early diagnosis of, 1358—ab
night camp for, 680—E
obstructive abnormalities of oranasopharyngeal spaces in children, powerful predisposing factor to, 1367—ab
of bladder, 1538—ab, 1728—ab, 1901—ab, 2003—ab
of bones and joints, how Minnesota cares for its indigent children with, 1541—ab
of bone, 250—ab, 948—ab
of bone, blastomycosis resembling, 344—ab, 1553—ab
of bone, complicated surgical, in adults, fresh air with hyperemia in, 1540—ab
of bones, histogenesis of, 1449—ab
of bones, joints and glands in children, seashore and fresh-air treatment of, 1628—ab
of breast, 1363—ab
of bronchial glands and apices, x-ray diagnosis in, 1192—ab
of cervical glands, softened, possibility of avoiding scar formation in, 1628—ab
of cervical lymph nodes, 1364—ab
of children, recent diagnostic methods in, 157—ab
of cornea, 1255—ab
of ear, 1256—ab, 1278—ab
of female genitalia, 867—ab, 1539—ab
of gastrointestinal tract, 867—ab
of hip, treated by weight-bearing and fixation by Lorenz short hip spica, 1625—ab
of kidney, 875—ab, 1194—ab, 1541—ab
of kidney, experimental, with ligated ureter, 359—ab
of larynx: type which is capable of recovery and principles of treatment, 1256—ab
of lymphatic glands in children, 1366—ab
Tuberculosis of nose, m.uth and pharynx, 1364—ab
of pericardium in children, 1368—ab
of peritoneum, 1539—ab
of retroperitoneal glands and their *relations to spinal symptoms, 1364*—ab
of seminal vesicles, 948—ab
of suprarenals, and congenital syphilis, 176—ab
of testicle, 1844—ab
of testicle, diagnosis and indications for operation, 867—ab
of uterus and tubes with myoma, 1826—ab
of vas deferens, epididymis and testicle, 1539—ab
opportunities for infection, 1254—ab
opsonic index, and, 1361—ab, 1756—O
or tuberculous peritonitis and intestinal obstruction, 1629—ab
overcoming predisposition to, and danger from infection during childhood, 1627—ab, 2185—ab
oxygen in peritonitis due to, 865—ab
pathology and clinic of, in light of recent conquests, 718—ab
patients, psychologic tests made on, 1371—ab
percutaneous infection, 1254—ab
peritonitis due to, and treatment with iodized gelatin, 1743—ab
peritonitis due to, medical treatment of, 1562—ab
peritonitis due to, pathology of, 1450—ab
peritonitis due to, statistics of, from Johns Hopkins Hospital, 1464—ab
persons free from, absence of reaction to old tuberculin in, 264—ab
physiologic effects of residence in high altitudes on, 1255—ab
placental transmission of, 1367—ab
possibilities of infection from table utensils at sanatoria, 1254—ab
prephysical signs of, in children, 1752—O
present crusade against in New York *City, 1639—ab*
prevention of infection of healthy persons, 1269—ab
prevention of, relative functions of available agencies, 1899—ab
primary, in hernia, 1380—ab
primary intestinal, in adults, 1560—ab
primary, of mesenteric glands, 866—ab, 1114—ab
primary, of upper respiratory and alimentary tracts, 1280—ab
problem, and National Department of Public Health, 1462—ab, 1812—ab
problem in Philippines, elimination of intestinal parasites first step in solution of, 2233—ab
propaganda, Christmas stamps for, 1720—ab
protection against, 1358—ab
protection of cattle against, 359—ab
provision for advanced cases of, 1268—ab
psychic phases of, literary description of, 1882—C
pulmonary, 67—ab
pulmonary, accuracy of tuberculo-opsonic index and its value as control to tuberculin treatment in, 1361—ab
pulmonary, among printers, 1726-ab
pulmonary and of pleura, surgical aspects of, 1365—ab
pulmonary, and universal asthenia, 1253—ab
pulmonary, antiseptic vapors in, 1646—ab
pulmonary, Arneth's classification of neutrophile leucocytes and its application in, 2006—ab
pulmonary, artificially induced pneumothorax in, 2095—ab, 2098—ab
pulmonary, coagulability of blood *in*, 1898—ab
pulmonary, comparative value of change of climate and of treatment in sanatoria near at hand in, 2088—ab
pulmonary, corn oil in, 39—O
pulmonary, diagnosis of, 176—ab
pulmonary, early diagnosis of, 1183—ab
pulmonary, etiology of, 410—E, 535—ab, 536—ab, 626—ab
pulmonary, expectant treatment of, 1729—ab
pulmonary, graduated labor in, 1896—ab
pulmonary, in children, 1112—ab
pulmonary, in children of tuberculous parents, 1260—ab
Tuberculosis, pulmonary, influence of *artificially induced pneumothorax* on, 1558—ab
pulmonary, influence of pleuritic effusions on course of, 1910—ab
pulmonary, *kidneys in*, 1450—ab
pulmonary, new viewpoints in treatment of, 1557—ab
pulmonary, opsonic index in, 626—ab, 1361—ab
pulmonary, pneumococcus in blood in, 1823—ab
pulmonary, pneumonic process in, 1449—ab
pulmonary, predisposition of apices of lungs to, 1252—ab
pulmonary, prognosis of, in children under fifteen, 1628—ab
pulmonary, pneumothorax, without exudate in, 1898—ab
Red Cross in war against, 2088—ab
pulmonary, relative and absolute signs of, 1187—ab
pulmonary, rest of lung in, 1895—ab
pulmonary, specific therapy of, 1359—ab
pulmonary, recognition of pure, symptomatic treatment of, 2098—ab
pulmonary, treatment of, in Illinois, 441—ab
pulmonary, tuberculin as adjunct to home treatment of, 1031—ab
pulmonary, tuberculin in, 847—ab, 1382—ab, 1906—ab
pulmonary, tuberculin in diagnosis of, 349—ab, 1105—ab
pulmonary, tuberculinum purum in, 1448—ab
pulmonary, x-ray diagnosis of, 949—ab, 1254—ab, 1283—ab, 1897—ab
relation of, to crime and incarcerated criminal, 1726—ab
renal, complete nephro-ureterectomy for, in women, 459—O
report on serologic studies in, by Reitter and Stoerk, 1449—ab
requirements for prophylaxis and treatment of, in sanatoria, 1269 1269—ab
rest and exercise in, 1813—ab, 2233—ab
results of sanitarium treatment, 1813—ab
routes of infection in, 1252—ab
rural, 525—ab
sanatoria, cost and maintenance of, with regard to institutions operated by life insurance associations, 1896—ab
sanatoria for women, 1260—ab
sanatorium, New Hampshire state, 162—ab
sanitarium, check interposed to use of property for, 165
sclerous atrophic nephritis due to, 1286—ab
sea water in, 2075—C
septicemic, 873—ab
serodiagnosis of, 1362—ab, 1756—O
serum treatment of, and endobacillary albuminoids, 1740—ab
skin reaction to tuberculin in, 540—ab, 1192—ab, 1271—ab, 1361—ab, 1362—ab, 1741—ab, 1756—ab
skin reaction to tuberculin in infants and children, 1627—ab, 1912—ab
softened, of cervical glands, possibility of avoiding scar formation in, 2000—ab
study of, contribution to, from orthopedic surgery, 1628—ab
study of, landmarks in, 172—ab
surgical, 1540—ab
surgical, Marmorek's serum in, 1913—ab
surgical, outdoor treatment of, 1363—ab
surgical, tuberculin in, 2080—ab
surgical, tubercle residue in, 785—ab
transcutaneous inoculation of, 1253—ab
transmission of, 76—ab, 1899—ab
transmission *and progress of, in* children, through family association, 1366—ab
treatment of, 1890—ab
treatment of, according to Brehmer's principles, 447—ab
treatment of sinuses, fistulous tracts and abscesses due to, 709—ab
treatment of, with tuberculosis immune blood, 1470—ab
tuberculin diagnosis of, bovine necropsy as object lesson on importance of, 2173—C
tuberculin treatment of, 791—ab, 1188—ab, 1359—ab
Tuberculosis, tuberculo-toxoidin and *immunization serum in*, 1446—ab
unilateral pulmonary, operative mobilization of chest wall and lung in treatment of, 1116—ab, 1909—ab
urinary, diagnosis of, in children, 1821—ab
vaccination of cattle against, 1738—ab
value of ocular tuberculin test in surgical treatment of orbital disease, 1174—ab
visceral, 1449—ab
vital points in, 1464—ab
with and without tubercle bacilli in sputum, 1828—ab
Tuberculo-toxoidin and immunization serum, 1446—ab
Tuberculous: See Consumptive
disease of hip, 900 cases of, 261—ab
infection, alleged, by brushes, 685
sinuses and abscesses, prevention, diagnosis and surgical treatment of, 1540—ab
sinuses, treatment of, 76—ab, 342—ab
Tuberculozyne, 1093, 1095
Tumor and stenosis, ileocecal tuberculosis causing, pathology and therapy, 2095—ab
brain, 342—ab, 1375—ab
brain localized and removed; symptomatology of lesions in parietal lobe, 1108—ab, 1109—ab
cells, embryonic tissue and organisms, resistance of, to freezing, 1701—E
cerebellar, three cases of, 1057—O
giant scalp, 1913—ab
inoculable, inheritance of susceptibility to, 253—ab
symptomatology of, in cerebellum and cerebellopontine angle, 1825—ab
Tumors, brain, diagnosis of, 86—ab
brain, in children, 82—ab
brain, ocular symptoms of, 1036—ab
cerebellar, diagnosis, surgical treatment and symptomatology of, 1649—ab
cerebellar, pathology of, 953—ab
congenital malignant, 1286—ab
experimental, healing of, by transfusion of blood, 228—E
from inflammation, 1646—ab
in bladder in children, 1912—ab
malignant, influencing of, by atoxyl and foreign albumin, 797—ab
malignant, removal of, novel method of operation in, 2092—ab
mouse, influence of scarlet oil on, 2197—ab
new intrathoracic, 870—ab
of adrenal origin—hypernephroma of kidney, 1460—ab
of bladder, operative treatment of, 160—ab
of bladder, transperitoneal removal of, 791—ab
of breast in childhood, 2090—ab
of breast, recent improvements in operations for, 1543—ab
of heart, casiustic study of, and fibroelastomyxoma of heart, especially myxomas, 1913—ab
of mediastinum, clinical aspects of, 897—O
of testicle, 410—E
of testicle, simple and mixed, relation of, 253—ab
of thorax with abdominal symptoms, 2080—ab
ovarian, complicating pregnancy and puerperium, 169—ab
ovarian, dubious and anatomically malignant, for, primary and ultimate results of ovariotomies 716—ab
primary, in heart, 1744—ab
proteids of, study of, 251—ab
puncture of corpus callosum in hydrocephalus, epilepsy and with, 1012—ab
results of application of special *histologic methods to study of*, 1184—ab
spinal-cord, prognosis of, with operation, 164—ab
vesical, 2186—ab
Tunis and Algeria, plague in, in *1907, 1469—ab*
Turbinal removal, most rapid, effective and least bloody method of, 1730—ab
Turgosphygmography and finger plethysmography, 2096—ab
Turpitude, distinguished, 1880
Twins, undeveloped, birth of, complicated by heart disease, 316—O

Tympanum, chronic suppuration above, conservative treatment of, 799—ab
Types, early clinical, of certain diseases, 1555—ab
Typhlitis 1459—ab
Typho bacillose, 1359—ab, 2093—ab
Typhoid, 194—O, 1233
  abdominal surgical complications of, 2182—ab
  agglutination test, simple, 1374—ab
  army immunization against, 2063—E
  aspirin in, 1891—ab
  bacilli carrier, extraordinary, 437—ab
  bacilli carriers, 981—O, 1516—E
  bacilli carriers in India, 1436
  bacilli disseminators, fowls as, 1526
  bacillus in blood in absence of typhoid fever, 86—ab
  bacilli, scanty, detection of, 799—ab
  bacillus, viability of, in body, 2183—ab
  bacteriologic diagnosis of, 978—O
  blood cultures in, 866—ab
  cholecystitis and treatment, 263—ab
  complicated by double suppurative parotitis in child, 2216—O
  complicated with gangrene of extremities, 87—ab
  complications, 352—ab
  complications, prophylaxis, prognosis and treatment of, 352—ab
  complications, treatment of, 339—ab
  dietetic and injection method of treating, 792—ab
  differentiation of outbreaks of, due to infection by water, milk, flies and contacts, 2088—ab
  ear and larynx complications of, 1455—ab
  endemic, from bacilli carrier, 1825—ab
  epidemics of, responsibilities of municipalities in Ohio valley for, 1496—O
  epidemiology of, 940—ab
  from mussels, 1022 1345
  in child, aphasia complicating, 1185—ab
  in Ireland, 776—ab
  in Manitoba 940—ab
  in Richmond, Va, with conclusions relating to typhoid in the South, 940—ab
  infection, transplacental, secondary nephritis with, 1817—ab
  inoculation against, in British army, 623—ab
  localized in kidneys, 2100—ab
  metabolism in, 947—O
  milk free fluid diet and rectal irrigations in, 73—ab
  Mississippi's next senator on 1529
  nourishment of patients during, 1732—ab
  outbreak of, milk borne, unusually extensive, 255—ab
  perforation, 333
  perforation, diagnosis of, 1891—ab
  perforation, treatment of, 1458—ab
  prevention of, 835—ab
  silver nitrate in 1281—ab
  spine, 406—O, 528—ab
  toxin reaction, ocular, 540—ab
  treatment of, 983—O, 1550—ab
  type acute tuberculosis of, 1908—ab
  vaccination against, improved technic for, 717—ab
Typhus at Gottingen, 1739—ab
  in Indo China, 533—ab
  in Russia, 612

U

Uganda syphilis in, 1430—E, 1436
Ulcer, Duodenal See Duodenal ulcer
  Gastric and of Stomach See Gastric ulcer
  peptic, diagnosis of, 1549—ab
  rodent, clinical and pathological aspect of, 167—ab
Ulceration, non specific of bones of nose and face, 1465—ab
Ulcerations, infectious, of fingers 446 ab
Underweight and overweight, influence of, on vitality, 1032—ab, 1187—ab
United States cost of tuberculosis in, its reduction, 1725—ab
  pharmacopeia and National Formulary, need of more intimate knowledge of, among physicians, 2018—O
  Public Health and Marine-Hospital Service, 942—ab
  Public Health and Marine-Hospital Service personnel bill, 924—E
University control and hospitals, 1274—ab
Uranalysis by quacks, 238
Urea, clinical examination of urine with reference to, 2092—ab
  hydrochlorid and quinin, hypodermic use of, in diagnosis and treatment of acute and chronic malaria, 1550—ab
Uremia, chronic nephritis with, subtemporal decompression in, 1902—ab
Ureter and kidney calculi, x ray in diagnosis of, 169—ab
  and kidney, surgery of, 2090—ab
  catheterization of, diagnosis and treatment, 1642—ab
  fistula in atrophy of kidney with, 1739—ab
  irritation of, appendicitis and right kidney, coexistence of symptoms of, 1727—ab
  ligated, experimental tuberculosis of kidney with, 359—ab
  obstruction to, 793—ab
  upper segment of, and kidney pelvis, plastic operations on, for hydronephrosis, 356—ab
Ureteral, calculi, 167—ab
  calculus, surgery of, 512—C
Ureterostomy, bilateral, value of in advanced cancer of bladder or prostate, 443—ab
Uretero vesical implantation, new method of anastomosis, 1321—O
Ureters and kidneys analysis of 140 operations on, 167—ab
  behavior of, after more comprehensive abdominal operation for carcinoma of uterus, 877—ab
  cystoscopy and catheterization of, in children, 1912—ab
  retention catheterization of, in bladder affections and prostatic hypertrophy, 87—ab
Urethra, air distended, method of operating in, 1467—ab
  and bladder, common errors in treatment of, 160
  dilatation of, method of estimating progress of, 172—ab
  impassable stricture of, plea for prompt use of retrograde catheterization in surgical treatment of, 167—ab, 258—ab
  injury of, and fractures of pelvis, 1542—ab
  length of, 1183—ab
  membranous, stricture of, 159—ab
  prolapse of mucosa of, in women, 1781—ab
  prostatic, perineal section for obstruction of, 866—ab
  traumatic rupture of, treatment of, 1865—O
  tuberculin reaction in, 1383—ab
Urethral and vesical sphincters, suture of, for incontinence of urine, 161—ab
Urethritis, beginning gonorrheal, quick method of curing, 2081—ab
Urethrorectal fistulas, 160—ab
Urethroscope, posterior, disturbances due to disease of verumontanum and its treatment with, 160—ab
Uric acid, endogenous, origin of, 795—ab
  metabolism during subcutaneous oxygen treatment of neuritis and neuralgia, 1044—ab
  production of, 1044—ab
Urinary findings in infants suffering from intestinal infection, 248—ab
Urine, albumin in, quantitative estimation of, 333—ab, 2055—O
  alleged manifestations of, in diseases of pancreas, 837—O
  ammonia coefficient in, 777—ab
  anasarca from retention of, 1743—ab
  and serum of syphilitics, presence of complement binding substances in, 1142—O
  and stools, toxicity of, and intestinal putrefaction in infants fed on foods rich in albumin, 360—ab
  blood in, hydrogen dioxid test for, 988—ab
  clinical examination of, and estimation of urea, 2092—ab
  detection of tubercle bacilli in, 541—ab
  determination of sugar in, 771—C
  determination of tubercle bacilli in 1044—ab
  diagnostic importance of composition of, in pneumonia, 877—ab
  ethereal sulphates in, in gastrointestinal autointoxication, 1822—ab
  examination of, improved technic for, 449—ab
Urine, Folin method for estimating quantity of ammonia in, 692, 860
  incontinence of, suture of urethral and vesical sphincters for, 161—ab
  infections of, in obstetrics, 1641—ab
  instrument for estimation of albumin in, 1511—O
  presence of mydriatic substance in, 1702—E
  proteid in, 691
  short circuiting of, in advanced cancer of bladder of prostate, 443—ab
  traumatic diffusion of, in kidney region, 173—ab
Urinary discharge, efficiency of, 172—ab
Uriseptin, 773—O
Urology, suction hyperemia in, 85—ab
Uruguay, cancer in, propaganda against, 203—ab
Utah medical news, 233, 853
  state board April and July reports, 1719
  state board October report, 1801
Uterine adnexa See also Fallopian Tubes and Ovaries
  conservatism in surgery of, 786—ab, 1465—ab
Uterine tenaculum, 1695—O
Uterus, abscess of, hysterectomy, recovery, 127—O
  amputation of, vertical and horizontal, 71—ab
  and bladder, traumatic rupture of, during labor at full term, 1406—O
  and Fallopian tubes tuberculous process in, with myoma, 1826—ab
  and stomach, 1005—O
  and vagina, capacity for absorption of mucous membrane of, 2193—ab
  arteriosclerosis of, 1174—ab
  cancer of, diagnosis of and of late syphilis of uterus, 268—ab
  cancer of, early diagnosis of, 419
  cancer of, immediate and remote results of hysterectomy for, 2008—ab
  cancer of, long freedom from recurrence after incomplete operation for, 1914—ab
  cancer of, not a disease peculiar to women, 2185—ab
  carcinoma of, behavior of ureters after comprehensive abdominal operations for, 877—ab
  carcinoma of, early diagnosis of, 786—ab
  carcinoma of, and fibroids, 1460—ab
  convoluted, 87—ab, 799—ab
  defective development of, 1556—ab
  displacement of, correction of, with sound, 716—ab
  displacements of, non surgical treatment of, 903—O
  displacements of, treatment of, 1377—ab
  double, childbirth with, 87—ab
  endoscopy of, 1469—ab
  fibroid of, general pathologic conditions with, 338—ab, 2188—ab
  fibroid, symptomless of, and conservative surgeon, 972—O
  fibroids of, operative and non-operative, 1815—ab
  fibromyomata of, and anemia, 1395—O
  fixation of, between external and internal os, 81—ab
  gravid, backward displacement of, diagnosis and treatment, 1189—ab
  gravid, traumatic rupture of, near term, 1646—ab
  hemorrhage from, significance of, 1377—ab, 1903—ab
  inguinal hernia of, 2008—ab
  hemorrhage, postclimacteric of, due to relative hypothyroidism, 2157—O
  injections into, dangers and usefulness of, 1647—ab
  involution of, in lying in women, 263—ab
  late syphilis of, and uterine cancer, diagnosis of, 268—ab
  metastasis of carcinoma of, in central nervous system and organs of sense 2198—ab
  myoma of dangers and treatment of 261—ab
  operative treatment of inveterate inversion of, 1044—ab
  perforating wounds of, inflicted during course of intrauterine instrumentation, 1734—ab, 2186—ab
  perithelial sarcoma of, 1227—O
  plea for prompt evacuation of, in eclampsia, 2041—O
  puerperal, bacteriology of, 866—ab
Uterus, puerperal, etiology of retroflexion of, 267—ab
  retrodisplacements of, modern methods of treatment of, 701—ab, 2090—ab
  retrodisplacements of, surgical treatment of, depends, 520—ab, 2001—ab
  retrodisplacements of, when and how to treat, 2096—ab
  retroflexions of, surgical treatment of, 250—ab
  retroversions of, after childbirth, prevention of, 2189—ab
  retroversion of, damages for, 2232
  retroverted, fallacies in surgery of, 1459—ab
  round ligament of, tumors in, 1287—ab
  rupture of, abdominal hysterectomy for, 2094—ab
  rupture of, and treatment, 952—ab, 1742—ab
  rupture of, at site of old cicatrix, 75—ab, 1190—ab
  stab wound of fetus in, 791—ab
  steam cauterization of, 1826—ab
  tents and drains for use in, 716—ab
  vaginal fixation of, 440—ab
  ventrosuspension of, and shortening of round ligaments, 2001—ab
  ventrosuspension of, during childbearing age, 707—ab
Utero abdominal wall fistula, delivery, by, 87—ab
Uvula, primary tuberculosis of, 1280—ab

V

Vacations and health, 134—E
Vaccination in Austria, 930—C
  in England, 414—ab
  of cattle against tuberculosis, 1738—ab
  restriction of power to exclude unvaccinated pupils, 864—ab
  with humanized lymph, 939—ab
Vaccine, calf, influence of temperature on, 2182—ab
Vaccine therapy, 1467—ab
  and therapeutic immunization, 80—ab
  in joint tuberculosis, 1625—ab
  in surgical infections, 1535—ab
  of gonorrhea in female children, 169—ab, 1298—O, 1301—O
  present status of, 1902—ab
  value of, in surgical infections, 2089—ab
Vaccines, autogenous bacterial, 1806—ab
  bacterial, in pyogenic processes, 792—ab
  in chronic otitis media, 1465—ab
  in general practice, 1466—ab
  use of, 1190—ab
Vagina, absorbing power of, especially for tuberculin, 1742—ab
  absorbing power of mucous membrane of, 2193—ab
  outlet of, lacerations of, 352—ab
Vaginofixation, management of delivery after, 1117—ab
Vanilla versus vanillin, 1720
Vaporization, 1826—ab
Varices, treatment of, 1384—ab
Varicocele, operation for, 169—ab
  technic of operation for, 2081—ab
Variola, 2197—ab
Vas deferens, tuberculosis of, 1539—ab
Vascular crises 626—ab
  disease of extremities, and Raynaud's disease, erythromelalgia and allied conditions, 1902—ab
  lesions of right centrum, progressive hemiplegia of left side due to gliosis and, 1035—ab
Vegetables, pseudotuberculous peritonitis from relics of, 1118—ab
Vein, pin imbedded in, 1509—O, 1797—C
Veins varicose epigastric, following phlebitis, 945—ab
Venereal diseases, conquest of, 348—ab
Venesection and cardiovascular affections 358—ab, 747—O
Venezuela, plague in, 418
Venous souffle, Smith's, 1743—ab
Ventricles of brain, drainage of, by transplanted blood vessels, 2095—ab
Ventrofixation an unsafe operation on uterus during child bearing age, 707—ab
  and shortening round ligaments, 2001—ab
  necessitating subsequent Cesarean section, 71—ab
Ventrosuspension, pregnancy and labor following, 707—ab, 1553—ab
Veratrum viride, in eclampsia, 1377—ab
  tincture, Norwood, 1565—ab
Vermin as disease carriers, 871—ab

Vermont medical news, 233, 683, 1165, 1520, 2168
  state board July report, 1274—ab
Veronal, overdosage of, 1229—O
  poisoning, acute, symptomatology, prognosis and therapy of, 265—ab
Vertebra, third dorsal, transverse severing of spinal cord at, 449—ab
Vertebræ, actinomycosis of, 344—ab
  cervical, unilateral dislocation of, 709—ab
Verumontanum, disturbances due to disease of, and treatment with posterior urethroscope, 160—ab
Vesiculitis, tuberculous seminal, 948-ab
Vibrotherapy in gynecology, 344—ab
Vienna, gynecology at, 1913—ab
  letter, 51, 236, 420, 686, 856, 930, 1022, 1167, 1246, 1346, 1438, 1523, 1614, 1709, 1880, 2070, 2171, 2227
  medical work in, 320—E, 688—C
Vignin of cow-pea, hydrolysis of, 1108—ab
Virchow monument, 51, 329
Virginia medical news, 233, 768, 853, 1520, 1609, 2225
  state board June report, 1801
  University of, higher medical standards at, 1273—ab
Virus of three-day fever, 1823—ab
Viscera, disease of, painful cutaneous zones in, 944—ab
  female pelvic, supports of, in which intra-abdominal pressure is still further defined, 1616—ab
  innervated by sympathetic, sensitiveness to pain of, 2195—ab
  pelvic, displacements of, pathology and operative treatment of, 263—ab
  pelvic, female, supports-in-chief of, 263—ab
  ptoses due to, and movable kidney, corset for, 1568—O
  tuberculosis in, 1449—ab
Vision, color, and other senses, 1737—ab
  defective, in Philadelphia school children, 1533—ab
Visitors, apparatus for providing with complete view and for securing photographs and moving pictures of operations, 1551—ab
Vital processes, energy and matter in, 1647—ab
  statistics: See Statistics
Vitality, influence of overweight and underweight on, 1032—ab, 1187—ab
Vivisection: See Animal Experimentation.
Voice as affected by general conditions, 1372—ab
  production, essentials of, 1031—ab
  sign, epileptic, 1729—ab
Volume and specific-gravity of organs, 1816—ab
Volvulus of stomach, dilatation of, 1616—O
Vomiting and postanesthetic nausea, administration of oxygen for, 524—ab
Vomiting of infants, habitual, cardiospasm as cause of, 1043—ab
  intractable, operation for, 74—ab
  obstinate, 2000—ab
  of pregnancy, 845
  of pregnancy, uncontrollable, 1380—ab
  of pregnancy, uncontrollable, successful suggestive treatment, 86—ab
  periodic, 82—ab
  prevention of, during first whiffs of ether, 717—ab
  recurrent, paroxysmal syndrome, probably allied to, 2002—ab
Vulvovaginitis, gonococcus, inoculation treatment of, in children, 169—ab, 1298—O, 1301—O

W

Walnut juice hair dye, dermatitis following use of, 1035—ab
War, medical service in modern army in, 1995—ab
Warts, 131, 675, 1513
  infective, 1645—ab
Washington medical news, 49, 137, 327, 683, 769, 926, 1089, 1435, 1521, 1791, 2068, 2168
Wassermann test reaction for syphilis: See Syphilis, Serodiagnosis of
Water and salt, pathology of metabolism of, 1559—ab
  and sewage, committee on standard methods of chemical analysis of, 942—ab
  distilled, adjustment of paramecium to, and its bearing on problem of necessary inorganic salt content, 1817—ab
  drinking, its use and abuse, 258—ab
  drinking, may it not when polluted with sewage, be one medium of dissemination of tubercle bacillus? 380—O
  drinking, on steamships, 2191—ab
  potable, consumption of, 2187—ab
  supplies, public, state control of, 942—ab
  supplies, purification of, lessened morbidity due to, 1431—E
  typhoid due to, 2088—ab
Waters, mineral, therapeutic action of, 2188—ab
Weather, anticyclonic, relation of, to prevalence of influenza and pneumonia on northern hemisphere, 660—O, 1281—ab
Weight and age in fetus, relation between, 919—O
  bearing, influence of, on tuberculous joint disease, 342—ab
  physiologic loss of, in thin dyspeptics 1285—ab
  sense of, on affected side, value in diagnosis of lobar pneumonia, 2186—ab
Wells, etc., precautions before descending into, 537—ab
West-Virginia medical news, 233, 1609
  state board April report, 64
  state board July report, 1172
Westphal sign in healthy, 1288—ab
Wheeler's nerve vitalizer, 1717
White race in tropics, 412—E
  swelling, neutral potassium oxalate in, 2099—ab
Whooping-cough, 1739—ab
  abdominal binder for, 1376—ab
  aphasia during, 711—ab
  experimental reproduction of, 2018—ab
  measles and influenza, relation of, to tuberculosis in children, 1366—ab
  morphology of blood in, 1462—ab
  new treatment of, 532—ab
Wine, beef and iron, 1025
Wisconsin, medical defense in, 56
  medical news, 49, 327, 853, 1165, 1521, 1610, 2068, 2168
  state board July report, 1171
Witness, calling of physician as, waives privilege as to prior examinations, 787
  competency as, of physician disclaiming to be an expert, 72—ab
Woman labor as factor in social life, 429—ab, 1553—ab
  necessity of carefully considering any diseased conditions of reproductive organs of female, what it means to health of, and increase in population, 1280—ab
Women, acute diffuse peritonitis in, shall we use vaginal or suprapubic drainage in? 1551—ab
  appendicitis in, and its importance in gynecology, 538—ab
  cancer of uterus not a disease *peculiar to*, 2185
  child-bearing, reduction of mortality and morbidity of, if maternity hospitals were more in favor, 623—ab
  development of, influence of education on, 1995—ab
  diffuse peritonitis in, 1110—ab, 1640—ab
  external genitals of, and development of hymen, 1903—ab
  genitalia of, repair rather than removal of, 1459—ab
  gonorrhea in, 533—ab
  in business, affecting health and morals, 429—ab, 1553—ab
  in business, affecting health of race, 429—ab, 1553—ab
  in business, affecting home life and marriage, 429—ab, 1553—ab
  insane, pelvic diseases of, operations for relief of, 623—ab
  lying-in, excretion of creatinin in; involution of uterus, 263—ab
  non-pregnant, abnormal secretion from mammary glands in, 1839—O
Women, pregnant, plea for painstaking supervision of, 1905—ab
  prolapse of urethral mucosa in, 1781—ab
  refused admission to Royal College of Surgeons, 510
  study of medicine by, in Germany, 510
  suburethral abscess in, 797—ab
  syphilitic, antibodies in milk of, 1409—ab
Work cure, 1485—O
  physical inability to, 1638—ab
Worms, inroads of, on family practice, 2178
Wound, stab, of fetus in uterus, 791—ab
Wounds, bladder, gastric and duodenal ulcers secondary to, 260—ab
  bladder, in hernia operations, 1722—ab
  gunshot, of lung, treatment of, by primary suture, 1471—ab
  gunshot, of spinal cord, operative treatment of, 1471—ab
  gunshot, treatment of, 1270—ab
  involving thorax and abdomen, access to, 1285—ab
  of eyeball, penetrating, prognosis in, 312—O
  of uterus, perforating, during instrumentation, 1734—ab, 2186—ab
  operative, infection of, by malignant disease, 748—O
  penetrating, of thoracic and abdominal cavities, 625—ab
Wry Neck: See Torticollis
Wyoming medical news, 1165
  state board June report, 696
  state board October report, 2087

Y

Yaws, flies as carriers of contagion in, 712—ab
  Treponema pertenuis (Castellani) and experimental production of, in monkeys, 950—ab
Yeast, brewers', directions for making, 1716
Yellow-fever, 233
  and mosquito, 2199—O
  in France, 1515—E, 1708
  method of spread of, 166—ab
  research, a pioneer in, 72—ab
Yew, poisoning and abortion by, 1741—ab
Yoghurt, 1043—ab

Z

Zander methods, mechanical treatment of diseases of circulatory system with special consideration of, 1372—ab
Zaufal retires, 50
Zoologic laws to man, application of, 1167
Zygomatic fossa, abscess in, 946—ab

CURRENT MEDICAL LITERATURE

INDEX OF SUBJECTS

Explanation: This index refers to the titles and the subjects of original articles published in the leading medical journals of the world, including The Journal, during the past six months. The reading matter which appeared in The Journal is not indexed here, except the original articles and the abstracts of original articles. The titles of the articles and the names of the journals in which they appeared were listed weekly in the Department of Current Medical Literature, and it is to them that references are here made. The figure in parenthesis refers to the paragraph; the number following, to the page in The Journal. For instance, "Abdomen, fibroma of wall of, (45) 75," refers to page 75 of The Journal, on which is found, in paragraph numbered 45, the title of the paper and the name of the author, viz, "Fibroma of the Anterior Abdominal Wall, W. Krusen." This title is listed under the journal in which the article appeared, the *American Journal of Obstetrics*, May, 1908. When "ab" follows a page number it indicates that the article was abstracted in The Journal; for instance, "Abdomen, gunshot wounds of, (16) 1276—ab." On page 1276, paragraph 6, will be found an abstract of this article, which appeared in the *New York Medical Journal*, Sept. 26, 1908. Titles of articles which appeared originally in The Journal are indicated in the index by an asterisk (*) before the page number; for instance, "Ablatio Placentæ, *1845," refers to page 1845 of The Journal, on which is found the complete original article. The index *to authors* of all articles, both original and those listed under Current Medical Literature, appears separately on pages 2321 to 2336 of this index.

A

Abdomen and thorax, access to wounds involving, (52) 1285—ab
  and thorax, diseases of interrelations of, (21) 354, (18) 444—ab
  and thorax, inflammations in, differentiated from appendicitis, (79) 169, (80) 441—ab
  and thorax, orthodiagraphic examination of organs in, (135) 1743
  and thorax, penetrating wounds of, (81) 625—ab
  and trunk, body elevator and support for operations on, *126
  diseases of, indications for immediate operations in, (63, 64) 1642—ab
  electric massage of, (46) 1374
  fibroma of wall of, (45) 75
  foreign bodies left in, after operation, (28) 1033, (68) 1035—ab
  gunshot wounds of, (144) 353, (50) 440, (130) 1111, (6) 1276—ab, (111) 2194
  gunshot wounds of, plastic repair of, (144) 353
  injuries of, (15) 536
  lesions in, of pelvic origin, (23) 712
  lower left quadrant of, significance of pain in, (145) 1906
  pressure conditions within, (27) 1033—ab
  postoperative gas distension of, prevention of, (79) 1904—ab
  right upper quadrant of, *infection in*, (99) 534
  surgical diseases of, reflex gastric symptoms factor in, (133) 1553
  technic, improved, for opening, (132) 1474
  three procedures for entering, *912
  wounds of, non penetrating, (61) 441
Abdominal and pelvic operations, plea for drainage in, (75) 2004—ab
  auscultation as aid in diagnosis, (3) 2234
  cancers, secondary implanted, (82) 356—ab
  colic, (114) 2100—ab
  contusion, isolated laceration of mesentery after, (72) 1648
  contusions, (108) 1116
  diagnosis as tested by operation, (96) 624—ab
  disease, observation of pathology on operating table necessary to accurate diagnosis in, (140) 1906
  disorders, acute, cutaneous tenderness in, (19) 795—ab
  hysterectomy for cancer of uterus, (24) 2004—ab
  incision, legal aspect of, (65) 1818
  neoplasms differential leucocyte count in diagnosis of, (76) 1904
  organs, sensibility of, (179) 87—ab
  pain, diagnostic significance of, (168) 171, (109) 1037—ab
  pain, significance of, in atypical appendicitis, (75) 625—ab
  pelvic and labial tumor, (7) 2231
  reflex, (122) 878
  Section See Laparotomy
  strain, bursting of intestine from, (48) 798
  surgery, exclusive of hernia, (121) 2[illegible]0
  surgery, leucocyte count in, (5) 1276
Abdominal surgery, recent work in, (28) 1190
  wall, desmoid tumors of, (35) 1033
  wall, fibroma of, (129) 1553, (126) 1742
  wall, inflammatory tumors in, following appendicitis, (69) 2193
  wound, new method of closing, (61) 2188
Ablatio placentæ, *1845
Abnormalities, human, inheritance of, (34) 262—ab
Abortifacient, poisoning from fish berries used as, (101) 2099
Abortion and miscarriage, etiology and symptomatology of, (83) 351
  and miscarriage, prophylaxis and medical treatment of, (84) 351
  and miscarriage, surgical treatment of, (85) 351
  and poisoning by yew, (109) 1741 ab
  causes of, (38) 1817—ab
  criminal, *957, (39) 1816, (89) 1819
  criminal, and race suicide, moral aspects of, (88) 1819—ab
  curette and treatment of, (139) 1117—ab
  early and extrauterine pregnancy, differential diagnosis of, (32) 2186
  indications for, in morbid dread of labor, (106) 84
  instrumental, (148) 360
  missed, (118) 1117—ab, (107) 1644
  or full term delivery, gonococcus as factor in infection following, (59) 2091
  treatment of, (92) 956, (123) 870
Abscess, appendiceal, treatment of, (3) 870—ab
  between iliopsoas and head of femur, (40) 2191—ab
  brain, 667, *756, (108) 1466
  brain, diagnosis of, (91) 632—ab
  brain, extradural, (129) 870
  brain, of otitic origin, (9) 627, (88) 793, (138) 950, (93) 2092
  brain, partial auditory and visual aphasia with object blindness due to, (82) 869
  brain, with chronic purulent otitis media, (34) 1551
  cerebral, *667
  cerebral, and pyonephrosis, *756
  cerebellar, and lateral sinus thrombosis, (122) 1377
  cold retromammary, (46) 629—ab
  in zygomatic fossa, (36) 946—ab
  extradural, (129) 870
  gaseous, in displaced liver, (44) 355
  high pelvic, conservative drainage of, (93) 1110
  liver, (37) 1737
  liver, amebic, a preventable disease, and postoperative sepsis as lethal factor, (14) 1821,—ab
  liver, amebic, in monkey, (45) 1035
  liver and dysenteric amebiasis, (17) 1820
  liver and hydatid cyst, differential diagnosis of (132) 1743
  liver, diagnosis of, (25) 2186
  liver dysentery without, (12) 1820—ab
  liver *treated by aspiration* and injection of quinin, (16) 1820
  liver tropical, (11) 1820
  liver, tropical, is dysentery sole cause of? (15) 1821—ab
  liver, tropical or amebic as preventable disease, (29) 1907
Abscess, liver, tropical, prevention of, (28) 349—ab
  liver, tropical, rapidly cured by flexible, *sheathed trocar*, (7) 1906
  of lung, chronic, operative treatment of, (83) 1040
  of lung from ascending infection from appendicitis, (16) 1549
  of lung, pneumopleuritis followed by, (61) 1642
  of nasal septum, probably due to anthrax, *1697
  of orbit, secondary to nasal disease, (114) 1037
  of spleen, (42) 1737
  of tongue, deep, operation for, (79) 175
  of uterus, hysterectomy, recovery, *127
  otitic cerebellar, treatment of, (9) 627
  pelvic, secondary to peritonitis, (51) 355
  pelvic, treatment of, (89) 169—ab, (80) 1825—ab
  pelvic rectal drainage in, (139) 353—ab, (15) 711—ab
  periauricular, and furuncle of external meatus, simulating mastoid disease, (59) 1280
  perinephritic, in children, (129) 442
  perinephritic, stone, and tuberculosis of kidney, (141) 353—ab
  perityphlitic, necessary for appendicectomy after, (2) 535—ab
  prevesical, (41) 1033
  subperiosteal, in infants, (67) 792
  subphrenic, (53) 1285—ab (63) 2008—ab
  suburethral, in women, (42) 797 ab
Abscesses appendiceal, unoperated, intestinal tears following, and their medicolegal relations, (74) 624—ab
  fixation, in puerperal infection, (17) 2255—ab
  spondylitic, in posterior mediastinum (74) 1114—ab
  traumatic, of anterior mediastinum, (78) 1114—ab
  treatment of, (121) 1827
  tuberculous treatment of, (60) 76—ab (68) 709—ab
Absorption, capacity for, of mucous membrane of uterus and vagina, (57) 2193—ab
Academy of Medicine, Detroit, deceased founders of, (107) 442
Acanthia lectularia, spirochetes in, (48) 1030
Acanthosis or ichthyosis, (82) 710
Acardia, embryologic study of, (105) 1473
Accident insurance and legal indemnity, value of vision in its relation to, (70) 1109
  lung affections following, (108) 84 ab
Accidents due to antiseptics in surgery, (97) 953
  electric, (114) 1383—ab
  electric, suddenly fatal, 2100—ab
  occupational, in telephone girls, (51) 953
  industrial, and traumatic inflammation of joints, compensation for, (60) 1880
Acclimatization, physiology of, (100) 876
Accouchement forcé, (87) 533—ab: See also Delivery
Acetabulum, gonorrheal coxitis and protrusion of floor of, (89) 2098
Acetic aldehyd in wine, (48) 1737, (29) 2094
Acetone in inoperable carcinoma of uterus, (54) 917
  postanesthetic acetonuria with delayed excretion of, after childbirth, (13) 2005
Acetonemia, fatal, (141) 534
  periodical, blood findings in, in young children, (112) 1289—ab
  periodic, in older children, (100) 716—ab
Acetonuria, (5) 347
  and acidosis, (123) 878
  postanesthetic, with delayed excretion of acetone after childbirth, (13) 2005
Achondroplasia, (2) 165
Achylia gastrica, (45) 440—ab, (10) 1901
  diarrhea from, in children, (99) 2099—ab
  Einhorn's versus insufficientia pylori, (7) 1729
  pathogenesis and etiology of, (112) 1826—ab
Acid, acetyl salicylic, in follicular tonsilitis, (59) 2188
  B oxybutyric, quantitative determination of, in urine, (47) 1731
  camphoric, action and uses, (5) 72
  cinnamic, intravenous treatment of *consumptives* with, (67) 1557
  diazobenzene sulfonic, action of, on thymin, uracil and cytosin, (43) 1731
  formic, derivatives, of, in cancer, (6) 1467—ab
  glutamic, ingested in phloridzin glycosuria, production of sugar from, (72) 350
  glutaric, action of, on phloridzin diabetes, (55) 954, (92) 1288
  glycothionic, (160) 870
  hydrochloric, action of, on secretion of ferments in stomach and pancreas (71) 875
  hydrochloric, dependence of digesting power of pepsin in infant stomach on, presence of, (97) 1116
  hydrochloric, influence of, on digestion of pepsin, (80) 1558
  hydrochloric, perverted secretion of, diagnostic value of, (5) 1638—ab
  hydrochloric secretion of, and use of, in therapeutics, (129) 2197—ab
  intoxication, (119) 170—ab: See also Acidosis
  intoxication, fatty, (14) 1736—ab
  intoxication, fatty, in children, (15) 1737
  nitric, inhalation of fumes of, in chronic bronchitis, (154) 1475—ab
  nitrous, nitrites and aqua regia in determination of mineral constituents of urine, (32) 1278—ab
  oxalic, poisoning, (71) 1738
  pyroligneous, dangers of, (113) 1561—ab
  thioglycolic, and atoxyl, mixture of, in experimental nagana, (66) 1470
  trichloracetic, *916
Acidosis, (165) 1159 See also Acid Intoxication
  and acetonuria, (123) 878

Acidosis and catalytic action of lipase, (49) 947
  diabetic, underlying chemical principles of, (27) 73—ab
Acids, fatty, oxidation of phenyl derivatives of, in animal organism, (44) 1731
Acne agminata, (83) 710
  and alopecia, relation of seborrhea to, (43) 1374
  rosacea, treatment of, (150) 86
  vulgaris, chronic, vaccine therapy of, (47) 2007
Aconite and belladonna, physiologic antagonism between, (13) 951—ab
Acromegaly and hypophysis, (59) 1557—ab
  and tumors in hypophysis, (124) 878—ab
  and x-ray, (75) 1648
  blood in, (86) 1288—ab
  diabetes mellitus in, and hypophysis glycosuria, (116) 1826
  osseous plaques of pia arachnoid and pain in, (91) 1376—ab
Actinomycosis, (46) 1551—ab
  of pelvis, (12) 944
  of vertebræ, (52) 1903
Adams-Stokes' disease, (16) 1372
  disease and disturbance in conduction of impulse, (94) 1041—ab
  disease, clinical and pathologic study of, (41) 2002—ab
  disease, retrogression of, (95) 1041—ab
  disease with induration in bundle of His, (57) 630—ab
  syndrome observed for more than eight years, (10) 2093—ab
  syndrome, syphilitic, (147) 1475—ab
Addison's disease, hyperplasia of thymus in, (105) 877
Adenitis, cervical and submaxillary, in convalescence from diphtheria, (84) 2006
  cervical, and systemic infections, submerged tonsil and, (76) 710
  inguinal, (22) 531
  neutral potassium oxalate in, (111) 2099—ab
Adenoid and tonsil operations, results in, (11) 1277
  and tonsil operations, status lymphaticus and anesthesia in, (68) 1185—ab, (105) 1552
Adenoidectomy and tonsillectomy, technic of, (132) 1037—ab
  prevention of hemorrhage during, (92) 441
  technic of, and perfected curette, (104) 1552
Adenoids, (96) 352, (139) 1282, (57) 2003
  and catarrhal disease of ear, (99) 2005
  and diseased tonsils, why they should be removed, (135) 1820
  and impaired hearing, responsibility of physician for future of child with, (42) 1374—ab
  and inability to concentrate attention, (130) 450—ab
  and tonsils, diseased, pathology and treatment of, (104) 352—ab
  and tonsils, diseased, removal of, to rid throat of diphtheria bacilli, (66) 1280
  and tonsils, enlarged, and mental and physical development of children, (69) 441
  and tonsils, hypertrophied faucial, an etiologic factor in backward children, (87) 869
  and tonsils, surgery of, (20) 1184—ab, (104) 1187
  early operation for, (133) 170
  inflammation of types of pneumonia with, (7) 1276—ab
  in nasopharynx, (158) 1734
Adenoma malignum of vaginal portion of cervix, (135) 2198
  malignum, uterine, with vaginal implantation 11 years after operation, (77) 2189
  of thyroid, (144) 1734
  of testicle, non-existence of, (35) 173
Adenomata, two, of islands of Langerhans, *1075
Adenomyoma, uterine, (54) 630, (53) 1646
Adenopathy, bronchial, vertebral auscultation in diagnosis of, (70) 709—ab
Adhesions after laparotomy, (161) 86
  intra-abdominal, (53) 2090—ab
  intraperitoneal, sterile oil in prevention of, (138) 353—ab
  peritoneal, (67) 1287—ab
Adipose genital degeneration, removal of hypophysis for, (103) 877—ab
Adiposis-dolorosa, (21) 439—ab, (11) 1901—ab
Adiposis-dolorosa, with involvement of large nerve trunks, (17) 2088
Adnexa and appendix, inflammation of, differential diagnosis, (78) 539
  diseased bilateral, removal of, by transverse fundal excision, (87) 956—ab
  inflammations of, operative treatment, (76) 1287—ab
  suppurative affections of, (53) 538
Adolescence, osteomyelitis of, (21) 1462
Adolescents, acute osteomyelitis in, emergency treatment of, (42) 263
  coxa valga of, (72) 1286
Adrenal Gland: See Suprarenals.
Adrenalin, action of, injected subcutaneously, (101) 1913
  and lymphagogs, antagonistic action of, (69) 539—ab
  diabetes produced by, (44) 537
  diuretic action of and active principle of pituitary gland, *1849
  intravenous injections of, in rabbits, liver affections after, (87) 447
  saline infusion, intravenous, efficacy of, (115) 266—ab
  saline injections as adjuvant in severe diphtheria, (90) 799
  specific reaction of, (117) 1474—ab
  therapeutic action of, applied to skin, (44) 1908—ab
  therapy, (48) 1817
Adult, acute anterior poliomyelitis in, (14) 706
  spastic spinal paralysis in, tenotomy of psoas magnus and parvus and iliacus, in, (103) 1826—ab
Adults and children, defensive arrangements of body in, (2) 353—ab, (43) 1284—ab
  syphilis of lung in, (147) 268—ab
Advertising, unethical, and counter prescribing, (106) 352
Africa, West, malaria in, (21) 73
After-treatment, importance of, in surgical cases, (82) 1732
Age and incipient cataract, blood pressure in, *400
  and weight in fetus, *919
  at first menstruation, and development of pelvis, (54) 2192—ab
  chronologic and anatomic, in early life, *1197
  old, (124) 1734—ab
  old, from forensic standpoint, (103) 1560—ab
  old, gastric secretion in, (43) 349—ab
Aged, prostatic hypertrophy in, (64) 624
Aggressins, streptococcus, in blood in puerperal sepsis, (89) 799
Agglutination, bacterial, of red corpuscles, (101) 800
  of staphylococci, (126) 1290
  reaction, value of and of bacteriologic methods in diagnosis of glanders, (52) 2003—ab
  test, simple typhoid, (53) 1374—ab
Agglutinins and opsonins, (72) 1465
  production of, in body by inoculation of substances other than products of bacterial origin, (157) 870
Aggressins, actions of, (112) 1116
Ainhum, (42) 791
Air and food passages, use of bronchoscope and esophagoscope for location and removal of foreign bodies in, (132) 1734
  baths in tuberculosis, (101) 1560
  cells, accessory, in septum nasi, (28) 1467
  change of, in adult life, (26) 444-ab
  dry hot, therapeutic application of, (100) 1187
  embolism in obstetrics, prevention of, (42) 2238—ab
  fresh, and nutrition in laryngeal and pulmonary tuberculosis, adjuvants to, (55) 1465—ab
  hot, in acute inflammations, (120) 1827—ab
  infections of minor importance, *2048
  injections of, (86) 176
  injections of, in recurring pleural effusions, (55) 1738
  insufflation of, in pleural effusion, (59) 1380—ab
  liquid, resistance of embryonic epithelium, transplantable mouse cancer, and certain organisms to freezing with, (55) 2003—ab
  open treatment by, (10) 944
  passages, upper and digestive tract, infection by, (116) 1651—ab
  passages, upper, tuberculosis of, seashore in, (127) 359
  passages, upper, tuberculosis of, treatment of, (12) 255
  passages, upper, x-ray in diagnosis and treatment of diseases of, (92) 2010
Air, superheated, in gonorrheal joint affections, (86) 447—ab
Alabama, State M. A., organization of, (148) 78
Albumin, foreign, influencing of malignant tumors by, (53) 797—ab
  foreign, production of antibodies by, in child, (80) 715
  in urine, instrument for estimation of, *1511
  in urine, quantitative estimation of, *38, *2055
Albuminoids, endobacillary, and serum treatment of tuberculosis, (86) 1740—ab
Albuminometer, new, (64) 1647
Albuminuria, alimentary, diagnosis and significance of, (23) 2186—ab
  in parathyroid insufficiency, (124) 450—ab
  in pregnancy, significance of, (53) 867
  orthostatic, (173) 87, (127) 1561
  orthostatic, and tuberculosis, (31) 349—ab
  orthostatic, induced, (122) 2197
  physiologic, (116) 1037
  pregnancy and eclampsia, parathyroid, treatment of, (119) 1651—ab
Alcaptonuria and ochronosis, (98) 448—ab
Alcohol, abuse of, in children's diseases, (10) 622—ab
  accuracy in the study of mental and nervous disorders from, (93) 1466
  and mental diseases, (25) 172, (51) 349, (24) 1736
  and metal poisoning causing neuroses, (186) 951
  and moral degeneracy, (94) 1466
  as cause of insufficiency, (15) 871
  disease and mortality from, (47) 349
  effect of, on protoplasm, (176) 171, (89) 1466
  effect of, on secretion and digestion, (161) 793
  influence of, in services, (13) 871—ab
  injection of, in trigeminal neuralgia, (3) 1276—ab
  insanity due to, (49) 349, (95) 626
  latest verdict of science on, (17) 1462
  maximum dose of, (93) 1382—ab
  medical profession losing faith in, (101) 1377
  negative food value of, and its action as specific nerve poison, (118) 634
  psychoses due to, (1) 1638—ab
  relation of, to physical deterioration and national efficiency, (44) 349
Alcoholism, (85) 1186
  and cruelty to children, (20) 261
  chronic, (139) 1037
Algeria and Tunis, plague in, (60) 1469—ab
Alienist and expert testimony, (3) 530—ab
Alimentary-tract, examination of, (167) 171
  perforating ulcers of, (6) 944
  perforation of, by swallowed bodies, (107) 1282—ab
Alkali, available, in ash of human and cow's milk and infant nutrition, (23) 1033—ab
Alnus serrulata, (98) 949
Alkaloids and proteid digestion, (115) 352
Allergy test, and conjunctival tuberculin reaction, (87) 176
Alopecia and acne, relation of seborrhea to, (43) 1374
  congenital circumscribed, (27) 172
  hyperemia in, 1389—ab
Alpha-monobrom-isolvalerylurea, (3) 165, (5) 255
Altitude, effect of, on heart lesions in children, (63) 948
  high, effect of on viscosity of blood, (139) 85
  high, blood pressure in tuberculosis at, (18) 944—ab
Alveolitis, or some pathologic conditions arising from inefficient care of the mouth, *2113
Amaurosis in pregnancy, (118) 177—ab
Ambylopia, little known type of, in children, (12) 627—ab
  recurrent, temporary, of angiospastic origin, (127) 442
Amboceptors and complement in typhoid serum, (44) 1464
Ambroise Paré—man and surgeon, (142) 534
Amebas, dysenteric, and liver abscess, (17) 1820
  in intestine of man, (30) 256—ab
Amebas, intestinal, dysentery with, but without liver abscess, (12) 1820—ab
  result of 300 examinations of feces for. (46) 1108—ab
Amebiasis, (64) 1375—ab
  intestinal, (13) 1820—ab
Amenorrhea and dysmenorrhea, tuberculin in, (117) 2012—ab
America, teaching of neurology in, *1
American Electro-Therapeutic Association, advancement of the, (121) 1820
  Surgical Association, early days of, (98) 259—ab
Ammonia and nitrogen estimations, total, toxemic pernicious vomiting of pregnancy with, (32) 1107
  inhalation of, causing fatal inflammation of lungs, (66) 1828
Amniotic fluid, hydrorrhea of, (123) 717
Ampulla of Vater and common bile duct, melanotic sarcoma of, (106) 260—ab
Amputation above malleolus, with osteoplastic operation on calcaneum and tibia, (46) 1822
  above shoulder joint, (78) 792
  in diabetic gangrene, (13) 789—ab
  interscapulothoracic, successful, (33) 354
  of anus and rectum, bloodless method of, *991
  of penis, technic of, (114) 266
  stump, old, plastic resection to restore function to, (52) 1909—ab
Amyl nitrite in pulmonary hemorrhage, (89) 869—ab
Amyloid degeneration, etiology of, (98) 266
Anal fistula, advantage of elastic ligature in certain cases of, (29) 1107—ab
Analgesia: See also Anesthesia.
Analgesia, nasal, in prognosis of dry catarrhal deafness *750
Analgesics, in pediatrics, (64) 257
Anaphylactin, chemical separation of, from horse serum, (93) 869
Anaphylaxis, (100) 869, (108) 1110, (107) 2011
  and toxogenins, (32) 712
  bacterial, (107) 717, *836
  cell and tissue, localization of, in guinea-pig, (99) 869
  chemistry of, (56) 2003—ab
  mechanism of, and horse serum, (33) 712
  produced by organ extracts, (86) 799
  reaction of, (56) 168
  serum, and intoxication in guinea-pig, (92, 97) 869
  serum disease as clinical manifestation of, (59) 709—ab
  serum, (108) 1110, (23) 1184—ab
  specific nature of, (98) 869, (80) 1466
Anaplasia, apparent, of cancer cells, (117) 877
Anasarca from retention of urine, (129) 1743—ab
Anastomosis and transplantation of vessels, (141) 268
  arteriovenous, and splenectomy, in Banti's disease, (47) 1108
  between the portal vein and the inferior vena cava in collateral circulation in hepatic cirrhosis, (118) 450
  facio-hypoglossal, *455
  intestinal, *516
  intestinal, of mucosæ, with rubber sutures, (138) 359—ab
  intestinal, without open incision by basting stitches, (51) 168
  resection and end-to-end, of oviduct in hen without loss of function, (52) 1108—ab
  uretero-vesical, *1321
  vascular, suture of blood vessels and direct transfusion of blood by, (25) 1278
  vessel, by rubber tubing, (18) 1550—ab
Anatomy and pathology of hernial sac, (5) 1111—ab
  and surgery of peritoneum, (14) 865
  applied, of tonsil, (10) 1277—ab
  barred road to, (27) 945
  of infants, peculiarities of, (100) 2189
  pathologic, and microbiology of grave jaundice in secondary syphilis, (43) 1646
  pathologic, of hydrazine poisoning, (151) 870
  pathologic, of liver, (90) 2098
  pathologic, of solar plexus in consumptives, (49) 538
  pathology and therapy of chronic endometritis, (58) 2193—ab
  surgical, of biliary ducts, (61) 1265—ab

Anatomy, surgical, of temporal bone bearing on spread and cure of suppuration, (137) 1906
teaching and examination in, (22) 1111
what is practical examination in? (61) 1815—ab
Anemia and fibromyomata of uterus, *1395
aplastic, (109) 1650
cerebral, ocular complications of, and thrombosis, (26) 1375—ab
complete, of central nervous system, effect of in dogs resuscitated after relative death, (26) 2089
experimental, (108) 1289
from deficient production of blood, (46) 713
in children, treatment of, (96) 1382
in young children (78) 1912—ab
of hepatic cirrhosis simulating pernicious type, *1143
pernicious, (46) 174—ab (106) 534, (129) 950, (89) 1825—ab; (83) 1912—ab, (89) 2010—ab
pernicious, and digestive tract, (105) 534—ab
pernicious, and pregnancy, (38) 623—ab
pernicious, and secondary chlorosis, (93) 352
pernicious, blood in, (14) 627—ab, (36) 952—ab
pernicious, cholesterin in, *2154
pernicious, diagnosis of, (131) 85
pernicious, etiology and treatment of (70) 1824—ab
pernicious, histologic changes in blood producing organs in, (92) 176
pernicious, kidneys in, (105) 266, (42) 355
pernicious, milk vegetable diet in, (138) 1744—ab
pernicious, progressive, (104) 534
pernicious, recurring (33) 2094—ab
pernicious, remissions in, *503
primary, leucocyte formula in, (102) 799
ring bodies in, blood in, (72) 174
secondary, of tuberculosis, hypodermics of iron in, (9) 1461
severe presenting blood findings of pernicious type, *1973
splenic, (169) 1189, (10) 1462
splenic, splenectomy, and recovery, (30) 866—ab
temporary cerebral, return of function in central nervous system after, (155) 870
temporary, resuscitation of glands and muscles after, (64) 350—ab
Anemias, (142) 442
Anesthesia, (135) 793, (63) 2003
and professional anesthetist, (112) 1377
at St Luke's Hospital, N Y, (10) 789
chloroform, (131) 793, *1578
chloroform and ether, (14) 789, (105) 1110
chloroform, apparatus for, (14) 951
chloroform, influence of covering mask with towel, (183) 87, (146) 1043—ab, (126) 1827
Commission of American Medical Association, report of, *1572
early, history of, (142) 1282
ether, (132) 793
ether, administration of, *1574
ethyl chlorid, apparatus for, (50) 1555
gas ether, without complications, (41) 1372
general, (79) 792
general, advantages of with part of circulation cut off, (94) 1826—ab
general, and lecithin, (122) 1117—ab
general, ethyl chlorid for, (43) 173—ab, (59) 446, (51) 623, (29) 2089—ab
general, improvement of, by adapting boiling point of anesthetic to temperature of body, (9) 789—ab
hyoscin morphin, in obstetrics, (133) 793 (12) 1377
in dental and major surgery, *907
in labor, (29) 2006
in oronasal surgery, (9) 438—ab, (68) 1185—ab
in tonsil and adenoid operations and status lymphaticus, (68) 1185—ab, (105) 1552
local, (36) 537—ab, (127) 1553, *1582, (86) 1643
local for operations on inguinal and femoral hernias, (125) 1117
local, for tonsillectomy, (60) 1185—ab
local, of limb by venous transfusion after expulsion of blood, (81) 1040—ab
local, prostatectomy under, (115) 84—ab
Anesthesia, nitrous oxid, *1576
practical points in, (55) 1279, (39) 1551, (110) 1819
prolonged, in dental operations, new method of administering nitrous oxid for, (18) 2190
quinin, painless tonsillectomy and adenectomy with, *496
rectal, (154) 78, (134) 793
scopolamin, (55) 621
scopolamin morphin, (127) 267—ab, (45) 714—ab, (24) 2001—ab
scopolamin morphin and chloroform, (13) 1377—ab, (45) 1465—ab
scopolamin morphin, in obstetrics, (76) 875, (11) 1377, (123) 1827—ab
special methods of, *1584
spinal, (128) 450—ab, (133) 717, (45) 797—ab, (10) 1038, (5) 1189, (108) 2196—ab
spinal, abducent paralysis after, (88) 1040
spinal and Cesarean section, (98) 176—ab
spinal, by Tuffier's method, (6) 1820
spinal, changes in Nissl's granule with, (82) 1040
spinal, gum arabic in, (92) 540—ab
spinal, in gynecology, (99) 716—ab
spinal, mishaps with, (90) 1740
spinal, stovain, (82) 1257—ab
spinal, stovain, deaths after, (36) 1190—ab
spinal, technic for at Bier's clinic, (107) 2196—ab
stovain, modifications in nervous system after, (70) 955—ab
surgical, blood changes in, *1586
surgical, introduction of, (1) 1815—ab
Anesthesias, 600 general, statistics of, (117) 170
Anesthetic, boiling point of, improvement of general anesthesia by adapting, to temperature of body, (9) 789—ab
choice of, in rectal surgery, (31) 707
general, choice of, (37) 1907
local, cocain as, in radical operation for inguinal hernia (95) 1552
nitrous oxid with oxygen, as, (67) 624
or knife, intravesical operations for benign tumors without, (95) 2092
Anesthetics, (128) 260
administration of, (31) 623—ab, (11) 789, (26, 27) 1901
at Hospital for Ruptured and Crippled, (12) 789
choice of, with reference to C E mixture, (38) 1284
history and administration of, (113) 1377
local, indications for, and selection of (28) 1901
personal factor in, (37) 1646—ab
physiologic action of, (25) 1901
prevention of deaths under, (33) 1378—ab
Anesthetist, professional, (8) 789—ab, (112) 1377
necessity for better training for, (74) 1380
status of, (100) 1037
Aneurism, aortic, (90) 1643
aortic, abdominal, (74) 1375
aortic, compressing heart and vessels at its base, (39) 537—ab
aortic, dissecting, (102) 177, (6) 255
aortic, relieved by calcium chlorid, (37) 1555—ab
arterial, ideal operation for, (66) 1390—ab
cardiac, *371
cardiac due to syphilitic gummata, (3) 1644
cerebral, (2) 1189
dissecting, of pulmonary artery, following rupture of arch of aorta, (6) 255
dissecting of pulmonary artery, rupture into pericardium, (8) 171
femoral, excision of sac, (32) 1821
impeding supply of blood to brain and arms, (85) 2009
in children, (82) 82—ab
of thoracic aorta, (60) 1465
popliteal, (95) 1904
popliteal, aneurismorrhaphy for, (29, 31) 790—ab, (64) 1732
radical cure of, by intrasaccular suture, *1667
thoracic, (9) 172
treatment of, by direct, gradual arterial closure, (63) 1818—ab
Aneurismorrhaphy, (29, 30, 31) 790—ab, (64) 1732
Aneurisms large, nonexpansile but transmitted pulsation of, (13) 2000—ab
Aneurisms, multiple, aortic, (41) 263
of descending aorta, (88) 1825
Angina, Ludwig's, (78) 1818—ab, (30) 2089
Vincent's, during pregnancy, (36) 1816
Angina pectoris, (56) 1642, (34) 2094—ab
abortion of attack, (112) 177
and pseudoangina, (97) 2189—ab
Angioma of choroid, (116) 1905
of orbit with invasion of globe along ciliary nerves, (117) 1905
radium treatment of, (37) 797—ab
Angiomata, muscular, (106) 800
Angiomyxosarcoma of larynx with expulsion of large tumor, (108) 1552
Angiospasm, retinal, and other vasomotor neuroses, (127) 442
Animal experimentation, *636
organism, oxidation of phenyl derivatives of fatty acids in, (44) 1731
pigment, sensitizing action of, and physiologic significance, (112) 2011—ab
Animals and man, absorption of fat in, under pathologic conditions (114) 1826
attempts to resuscitate by passing arterial blood through heart and central nervous organs, (113) 2196
domestic, of India, are they affected by plague? (25) 628
domesticated, diseases of, communicable to man, (23) 1820
effects of feeding, on iodin free diet, (146) 1111
immunity against vaccinia in, (29) 2190
new growths of, appearance of heteroplastic tumors in transplantations of, (5) 865
Roentgenized, bacterial infection in, (105) 448—ab
serum of, nephrotoxic substances in, in experimental nephritis, (45) 1903—ab
with trypanosomiasis, serum of, nonspecific disappearance of opsonin in, (113) 1741
Animism in antiquity and its present state, (84) 1643
Aniridia, congenital, case of, (136) 1037
traumatic, and aphakia, contusion of eyeball and, (127) 1282
Anisometropia, (110) 1037
Ankle joint, avulsion of, (30) 531
joint drainage of, (59) 1185, (154) 1188—ab
region injuries, especially of scaphoid bone, (77) 1114—ab
sprained, treatment for, (121) 1377
supernumerary bones in, (130) 85
tuberculosis of, surgery of, (75) 631
Ankylosis, complete, of elbow, arthroplasty for, (36) 2090—ab
bony, of joint, transplantation of periosteum in, (56) 1822—ab
of fingers, congenital, with brachydactylia, (81) 1287
of jaws, (86) 715—ab
Ankylostomiasis, (22) 2190
blood changes in, (7) 794
British Guiana, (14) 1906
in South Africa, (15) 1906
in the tropics, sanitation regarding, (13) 1907—ab
Anopheles maculipennis, Meigen, larval and pupal stages of, (46) 1030
occurrence and breeding places of, in tropics, method of destruction, and conditions that favor propagation of, *2203
Anorexia nervosa in infant, (57) 257
Antepartum examination, external, (29) 1033
Anthrax, administrative control of, (20) 712
infection, causing abscess of nasal septum, *1697
serum treatment of, in Philadelphia Municipal Hospital, (109) 1282
tonsillar, primary, fatal, (107) 1041
treatment of, (114) 2196—ab
Antibodies and antigens, determination of, in blood in typhoid, (65) 1738
cellular, and antigens, in serum in kidney and liver disease, (94) 1195
complement binding, in tuberculosis, and their importance in healing processes, (123) 2197
in milk of syphilitic women, 1409—ab
presence of, and cutaneous tuberculin test, (122) 266
production of in child in response to foreign albumin, (80) 715
production of by rectal incorporation of antigens, (163) 87
Antibodies, rôle of, in tuberculin reaction, (116) 717
specific formation of, in Roentgenized animals, (105) 418—ab
tuberculosis, and immunity, (67) 630, (58) 1193, (100) 1650
Antiferment treatment of suppuration without incision, (140) 359—ab, (91) 799
Antiferments, treatment of carcinoma based on action of, (52) 797—ab
Antigen in tuberculosis and infectious diseases, deviation of complement with tubercle bacilli derivatives as, (106) 1383
Antigens and antibody, determination of, in blood in typhoid, (65) 1738
and cellular antibodies in serum in kidney and liver disease, (94) 1195
from rabbits, serum diagnosis of syphilis with, (120) 878—ab
organ, specificity, of (130) 634
rectal incorporation of for production of antibodies (163) 87
Antigonococcus See Gonococcus
Antimalaria See Malaria
Antimeningitis See Meningitis
Antipepsin and antitrypsin in blood serum, (145) 1475
in gastric ulcer and for protection of stomach against autodigestion, (68) 1558—ab
Antiphagins and opsonins in pneumococcus infection, (62) 1039
Antiquity, animism in, and its present state, (84) 1643
Antiseptic vapors in pulmonary tuberculosis (31) 1646—ab
Antiseptics in surgery, accidents due to, (37) 953
surgery without, (15) 622
urinary, intestinal and wound, fate and action of, in body, *818
Antiserum, improved polyvalent, (77) 799
Antitoxic sera, antitoxin content and curative potency of, (106) 717
Antitoxin and toxin of dysentery bacilli, (67) 954
diphtheria, collapse after injection of, *38, (19) 255—ab
diphtheria, in exophthalmic goiter, (60) 1818
diphtheria, local measures to enhance efficacy of, (93) 540—ab
diphtheria, production of, (73) 539—ab
diphtheria, refined and concentrated, results from use of, (18) 166
diphtheria, skin reaction to, *1510
diphtheria, untoward results from, *1154
imperfect absorption of, from rectum, (74) 955
in diphtheria, (114) 793, (114) *914
in diphtheria, large doses of, *918
in diphtheria, problems of, (34) 1472—ab
leucocytes in diphtheria before and after the administration of, (74) 1186
preventive treatment of tetanus, (37) 537
possibility of universal, (50) 947—ab
Antitrypsin and antipepsin in blood serum, (145) 1475
in blood, (55) 797, (145) 1475
Antituberculosis See Tuberculosis
Antityphoid See Typhoid
Antrum forceps, reverse, with sphenoid punch attachment, *1233
Antrum maxillary, anatomic and pathologic conditions of, and teeth, (44) 2007—ab
ethmoid and sphenoid, submucous resection of lateral nasal wall in chronic empyema of, *1136
dehiscence of, (69) 797
disease of, and general surgery, (13) 1038, (43) 2007—ab
diseased (43) 1641
empyema of, diagnosis and treatment of, (135) 78, (24) 261
empyema of, of dental origin, (45) 557
intranasal opening into, (59) 650
involvement of, and ethmoidal perforation of inner corner of eye, *1925
primary epithelioma of, (88) 441
sinusitis of, and hay fever and asthma, (109) 352—ab
suppuration in, treatment, (31) 1112, (18, 19) 1644
Antitrypsin, determination of, in blood, (51) 1389
Anuria with cancer of rectum, (58) 2008—ab
Anus and rectum, bloodless method of amputating, *901
and rectum, imperforation of, surgical treatment of, in infant, (50) 1640—ab
and rectum primary melanotic sarcoma of, (22) 790—ab

- Anus, artificial, restoration of intestinal continuity following formation of, (93) 1186—ab
  - choice of anesthetic in surgery of, (31) 707
  - imperforate, rectum communicating with prostatic urethra in, (89) 1376
  - imperforate, with rectovaginal fistula, *670
- Aorta, aneurism of, (90) 1643
  - abdominal, aneurism of, (74) 1375
  - abdominal, experimental ligation of, (101) 799—ab
  - abdominal, occlusion of, (6) 171
  - aneurism, dissecting of, etiology, course and cure, (102) 177—ab
  - aneurism, dissecting of, following rupture of arch of aorta, (6) 255—ab
  - aneurism of, compressing heart and vessels at its base, (39) 537—ab
  - aneurism of, relieved by calcium chlorid, (37) 1555—ab
  - aneurisms, multiple, of, (41) 263
  - degenerative changes in, etiology of, (5) 1644
  - descending, aneurisms of, (88) 1825
  - diseases of, serodiagnosis of syphilis in, (87) 2194
  - rupture of, (99) 799
  - thoracic, aneurism of, (60) 1465
- Aortic incompetence, pocket formation in endocardium with, (103) 177
- Aortic-insufficiency, and kidney heart, characteristics of venous pulse in hypertrophy of left heart with, (51) 174—ab
  - dicrotic pulse with, (148) 1475
  - simple, systolic murmur in, (129) 634
  - suprarenal extract used in, (127) 450—ab
- Apex, right, diminution of vesicular murmur at, (47) 537
- Aphasia complicating typhoid in child, (39) 1185—ab
  - during whooping cough, (17) 711—ab
  - motor, and diplegia, idiopathic epilepsy complicated by, *1778
  - motor, localization of, (44) 953
  - motor, traumatic, (86) 1471
  - theory of, and dynamic element, (65) 2008
  - visual, and partial auditory, with object blindness, due to abscess of brain, (82) 869
- Aphakia and traumatic aniridia, contusion of eyeball and, (127) 1282
- Aphloia theæformis, in hemoglobinuric bilious fever, (52) 1380
- Apomorphin poisoning and retching and paralysis of muscles, (83) 1381—ab
  - variable effects of, (41) 1108
- Apoplexy, (45) 791
  - causes and treatment, (5) 1371
- *Apparatus* for abdominal massage, (113) 800
  - for applying cold in mastoiditis, (136) 85
  - for artificial respiration when thorax has been opened, (140) 2198
  - for automatic registration of foot-clonus, (126) 1914
  - for chloroform anesthesia, (14) 951
  - for administration of ether, (67) 1280
  - for ethyl-chlorid anesthesia, (50) 1555
  - for fractured arm, (82) 632
  - for lavage of bladder, (70) 264
  - for orthodiagraphic transillumination, (72) 1380
  - for providing visitors with view and for securing photographs and moving pictures of operations, (38) 1551—ab
  - for use in experimental pathology, (102) 869
  - home-made, for collecting infant's urine and stools, (64) 1469
  - improvised, for extension, transverse and longitudinal, (73) 1287
  - irrigating, (68) 1280
  - outflow-recording, improved, (43) 1817
  - screw, for fractured patella, (87) 1381—ab
- Appendicectomy, complicated, method of partitioning off iliac fossa after, (50) 1285—ab
  - in chronic appendicitis, remote results of, (40) 953
  - interval, are there good objective reasons for allowing patients to get up early after? (96) 1288—ab
  - lumbar, (57) 81—ab, *1867
  - method of, (80) 1110—ab
  - necessity for, after perityphlitic abscess, (2) 535—ab
  - purse-string suture in, (103) 793
  - treatment of appendix stump after, (38) 791
- Appendices epiploicæ, torsion of, (31) 439—ab
- Appendicitis, (98) 169, (128) 534, (54) 1279, (88) 1281, (2) 1377—ab
  - acute and chronic, (42) 707
  - acute, castor oil in, (104) 448—ab
  - acute, differences in temperature in axillæ in, (62) 1193—ab
  - acute, in children, (14) 1372—ab
  - acute, incipient, neutrophile blood picture in, (85) 1288—ab
  - acute, operation for, (26) 2006
  - acute, suppurative, perforating, complicating typhoid, (27) 1462
  - acute, treatment of, by general *practitioner*, (4) 1734
  - advantages of early operation in, (107) 1466
  - and cholecystitis, hematogenic infection in, (88) 2194
  - and gynecologic affections, differential diagnosis between, (82) 1739
  - and influenza, (102) 448—ab
  - and pericolitis, mucous colitis and, (14) 535—ab
  - and peritonitis, treatment of, (100) 632
  - and pregnancy, (97) 358
  - and surgical kidney affections, arterial blood pressure in, (65) 356
  - and trauma, (68) 264, (88) 2194
  - ascending infection from, causing abscess of lung, (16) 1549
  - aseptic operative technic and postoperative treatment, (76) 2004
  - atypical, significance of abdominal pains in and, (75) 625—ab
  - blood analysis in, (8) 348—ab, (85) 625—ab, (129) 1640, (44) 1641
  - chronic, fixation of movable cecum to relieve, (109) 1383—ab
  - chronic, movable cecum as cause of disturbances ascribed to, (74) 1739
  - chronic, remote results of appendicectomy in, (40) 953
  - cutaneous tenderness in, (19) 795-ab
  - diagnosis of, (42) 531, (121) 793
  - displacement of appendix simulating, (53) 1822
  - etiology of, (159) 1734, (25) 2006
  - etiology of, (159) 1734, (25) 2006
  - following trauma, (78) 1040
  - gangrenous, and early operation, (72) 714
  - gangrenous, complicating hernia, *751
  - hematuria complicating, (36) 1372-ab
  - hernia of appendix, complicated with, (38) 1033
  - history of, (108) 1826
  - inflammation of Meckel's diverticulum simulating, *2060
  - importance of anaërobic bacteria in, (116) 2196
  - inflammatory conditions in, abdomen and thorax differentiated from, (79) 169, (80) 441—ab
  - inflammatory tumors in abdominal wall following, (69) 2193
  - *in pregnancy and puerperium*, (62) 630
  - in women and its importance in gynecology, (62) 538—ab
  - intestinal obstruction simulating, (15) 1032
  - latent, with symptoms of ileus in young, (103) 2194
  - leucocytes in, (85) 625—ab, (29) 1640, (44) 1641
  - lymphatic and portal infections following, (62) 441—ab
  - *medical treatment of*, (7) 865
  - operation in complicated cases of and cases resembling, (98) 626
  - paragastric, (108) 800
  - para-appendicitis and periappendicitis, *prognosis* and treatment, (109) 84
  - pathognomonic symptom of, not hitherto described, (112) 949—ab
  - pathology and treatment, (133) 1820
  - *perforative, complicating pregnancy*, *1310
  - perforative, diffuse suppurative peritonitis following, (97) 626
  - *peritonitis, diffuse,* with (4) 260—ab
  - peritonitis due to, (2) 2185—ab
  - peritonitis following, treatment of, (111) 78
  - *phlebitis of left leg following, not* operated on, (43) 707—ab
  - prophylaxis of, (95) 1382—ab
  - rectal drainage in pelvic abscess due to, (15) 711—ab
  - significance of *left-sided pain in*, (111) 949—ab
  - significance of symptoms from viewpoint of urgency of operation, (2) 1111
  - signs and symptoms of, (24) 2006
  - *traumatic*, (83) 1110—ab, (138) 1188
  - treatment of, at Münsterling, (55) 1822
  - *unusual cases of*, (6) 2000, (56) 2090
  - what should general practitioner know and do in? (99) 626
  - when to operate for, (109) 1377
- Appendicostomy, (40) 445—ab, (93) 793
- Appendix abscess, sarcoma of right os *innominatum simulating*, (7) 260
  - abscess, treatment of, (3) 870—ab
  - and adnexa, differential diagnosis of inflammation of, (78) 539
  - and right Fallopian tube, abnormal position of, *1598
  - as pelvic organ, (17) 444
  - *can we diagnose foreign substances* in? (53) 2090—ab
  - carcinoma of, (38) 1730
  - carcinoma of, metastasis to ileocolic glands, (109) 260—ab
  - carcinoma, of primary, (45) 167, (156) 171, (108) 260, (56) 355—ab, (31, 32) 439, (31) 707, (22) 795—ab, (37) 1033, (5) 1105, (37) 1730
  - carcinoma of, primary colloid, (45) 167
  - carcinoma of, primary, and endothelioma, (32) 439
  - carcinoma of, primary, and sarcoma, (108) 260—ab
  - carcinoma of, primary, in child, (16) 2234
  - displacement of, simulating appendicitis, (53) 1822
  - disposition of stump of, (120) 1188—ab
  - *diverticula, false, of*, (25) 167
  - diverticulum of, (130) 352
  - endothelioma of, and primary carcinoma, (32) 439
  - fibroid degeneration of, (105) 1037
  - *hernia of, complicated with appen*dicitis, (38) 1033
  - incarcerated femoral hernia containing, *1154
  - palpation of, (111) 177
  - perforation, symptoms of, (40) 173—ab
  - *practical deductions in diagnosis and* treatment of infections of, (121) 1188—ab
  - questions, *644
  - review of work on, (184) 951
  - rupture of during operation, (7) 78—ab
  - sarcoma of, and primary carcinoma, (108) 260—ab
  - stump, treatment of, after appendicectomy, (38) 791
- Appetite, attempted analysis of physiologic factor (21) 1111
  - loss of, (22) 866
  - persistent loss of, in children, curative effect of rest in, *1917
- Appliance, Brewis' for use after colotomy, (10) 1820—ab
- Apraxia with autopsy, (123) 1553—ab
- Aqua regia, nitrites and nitrous acid in determination of mineral constituents of urine, (32) 1278—ab
- Argyrol and collargolum, catgut prepared with, (171) 950
  - method—silverized catgut, (41) 2089
- Arizona Medical Association, sugges*tions for medical legislation*, (87) 1466
- Arkansas surgeon, (93) 710—ab
- Arm, fracture of, above condyle, treatment of, (73) 2193
  - fractured, apparatus for, (82) 632
  - fractures of, treatment, (119) 78
  - *malformations of*, (104) 2194
  - nerve injuries of, diagnosis and electrical treatment, (22) 1283
  - nervous paralysis after injury of, (91) 2194
- Armies, principal, of world, individual first-aid packets of, (98) 1733
- Arms and brain, aneurism impeding blood supply to, (85) 2009
  - and foot, multiple and recurring patches of gangrene on, (41) 173—ab
  - and legs, intermittent limping in, (114) 1741—ab
  - extraction of, by Mueller's technic, (76) 1824—ab
  - nervous disturbances of, in arter*iosclerosis*, (121) 2197—ab
- Army and Navy, medical departments of, and relation for war, to American National Red Cross, (106) 1187
  - *field service*, practical portable x-ray equipment for, (86) 169
  - importance of learning trade in, (16) 871
  - prophylaxis of syphilis in, (54) 81
- Arneth's classification of neutrophile leucocytes and its application in *pulmonary tuberculosis*, (22) 2006—ab
- Arrhythmia, cardiac, from viewpoint of myogenic theory, (13) 1467—ab
  - extrasystolic, diagnostic importance of, (75) 1381—ab
- Arrhythmias, cardiac, clinical study of, (30) 1902
  - cardiac, diagnosis and treatment of, (78) 1904
- Arsenic, action on red corpuscles, (14) 627—ab
  - for weak, nervous children, (41) 81
  - in experimental nagana, (74) 447-ab
  - in skin diseases, *1482
  - in skin diseases, abuse of, (95) 259—ab
  - *in syphilis*, (64) 1103
  - therapeutic action of, (100) 352
- Arsin in rice and etiology of beriberi, (9) 2234
- Art, works of, and commerce, effect of bituminous coal smoke on, (8) 1815—ab
- Arterial degeneration, spontaneous, in rabbit, *1056
  - tension, high, (95) 2189—ab
  - tension, high, causes and treatment of, (139) 626—ab
- Arteries: See also Artery.
  - and nerves, neoplastic infection of, with cancer and cirrhosis of liver, (128) 1914
  - experimental disease of, (37) 866
  - *hyalin production in*, (119) 359
  - normal and pathologic, (8) 2093—ab
  - phenomena in, in aortic valvular insufficiency, (93) 83
  - suture of, (44) 797
- Arteriosclerosis, (92) 447—ab, (116) 534, (73) 1036—ab
  - and atheroma, (36) 1284, (42) 1379—ab
  - and sea climate, (88) 176
  - *and suprarenal lesions*, (23) 2089—ab
  - arterial and capillary tension in, (58) 1286
  - artificially carbonated and oxygena*ted baths in*, (79) 955
  - blood pressure in, (27) 1550
  - causes and significance, (28) 1278
  - hydrotherapy in, (86) 2098
  - incipient, artificial hyperemia of brain in, (71) 955—ab
  - nervous disturbances in arms in, (121) 2197—ab
  - of coronary artery, (74) 1465—ab
  - of nervous system, (77) 169—ab
  - pathogenesis and treatment, (37) 173—ab
  - premonitory signs of, (4) 535
  - pulmonary, clinical diagnosis of, (69) 955—ab
  - sclerosis of lymphatics corresponding to, (150) 1475—ab
  - suprarenals in, (106) 266
  - toxic origin of, (42) 712—ab
- Arteriovenous intubation, angiosclerotic gangrene and treatment by, (71) 631—ab
- Arteritis, septic, in children, (82) 82—ab
- Artery, brachial, circular suture of, (104) 1472
  - common carotid, ligation of for hemorrhage following quinsy, (45) 81
  - common carotid, ligation of, recovery, (151) 353
  - coronary, sclerosis of, (74) 1465—ab
  - femoral, aneurism of excision of sac, (32) 1821
  - innominate, successful ligation of, *1671
  - left iliac, ligation of, (33) 790
  - posterior inferior cerebellar, *occlusion of*, symptom-complex of, (73) 533
  - pulmonary, dissecting aneurism of, (8) 171
  - pulmonary, dissecting aneurism of, following rupture of arch of aorta, (6) 255—ab
  - pulmonary, embolism of, operation for, (96) 358—ab, (77) 539—ab, (54) 713—ab
- Arthritis, chronic, non-tuberculous, etiology of, *890
  - chronic, surgery of, (101) 77
  - deformans in children, (60) 709
  - deformans, multiple, *124
  - gonorrheal, (106) 793
  - gonorrheal, antigonococcus serum in, *674
  - gonorrheal, injections of dead gonococci in, (29) 73-ab, (28) 256-ab
  - gonorrheal, treatment of, (13) 530—ab
  - obliterative, and intermittent claudication, (5) 710
  - of uncertain origin and gonorrheal affections, treatment of, (31) 1907

Arthritis, rheumatoid, (19) 444
  rheumatoid, passive congestion in, (35) 1736, (35) 1736
Arthrodesis of sacroiliac synchondrosis, (3) 789
Arthropathies of acquired syphilis, (8) 1644
Arthroplasty for ankylosis of elbow, (36) 2090—ab
Ascites and tumors of ovary, (8) 710
  death after tapping for, (48) 1555—ab
  from tuberculous peritonitis, retroperitoneal tumor connected with kidney simulating, (2) 1038
  milky, (44) 873—ab
Asepsis and infection, influence of, on Cesarean section, (61) 1648—ab
  what factors are necessary in addition to, to secure healing by primary union? (11) 1729
  in obstetrics (77) 1904
Aspirin in follicular tonsillitis, local use of, (59) 2188
Asphalt and tar workers' epithelioma and chimney sweeps' cancer, (22) 1038
Asphyxia, late, after total ablation of larynx, (79) 1739
Asphyxiation, control of spasms by, (35) 1278—ab
Aspirin, idiosyncrasy to, (85) 955
Association, American Surgical, reminiscences of, (98) 255—ab
Astereognosis and tactile, asymbolia, (48) 1909—ab
Asthma and eczema, (67) 539—ab
  and hay fever and Colorado, (116) 1644
  and pulmonary emphysema, (102) 716—ab
  and thymus, (150) 360—ab
  bronchial, (99) 1187, (31) 1550
  bronchial, and emphysema of lungs, manual mechanical and gymnastic treatment of, (96) 540—ab
  bronchial, and reduction in size of heart, (119) 1290
  bronchial, in children, (60) 874—ab
  bronchial, treatment of, by diet, (20) 354
  in children, etiology of, (89) 715 ab
  origin and treatment of, (90) 265—ab
  outdoor treatment of, (28) 354—ab
  spasmodic, nasal treatment of, (94) 1819
  treatment of, (29) 354—ab
Astigmatism, lenticular, *302
Astragalus, backward and outward subluxation of, with subluxation of cuboid, (64) 356
Astrology in medicine, (122) 178
Asylum, deaf mute diphtheria epidemic in, (160) 1475
  for friendless children, Budapest, (87) 82
Asymbolia, tactile, and astereognosis, (48) 1909—ab
Asystole, fatal in exophthalmic goiter, (52) 535—ab
Atavism and phenomena of Mendel's law, new light on, (90) 876
Ataxia See also Tabes Dorsalis
Ataxia and vertigo complicating chronic suppurative otitis media, (183) 171
  degrees of, in right hemiplegia, (79) 447
  tabetic, treatment by Frenkel method, (97) 531
Atchison County, Kansas, smallpox in, (91) 77
Atelectasis, (124) 85
  embolic (thrombotic), of middle and lower lobes of right lung survival, (2) 1466
Atheroma and arteriosclerosis, (36) 1284, (42) 1379
  arterial, diet to reduce proportions of lime in, (52) 2007
Athletes influence of oxygen inhalations on (25) 1038
Atlas, dislocation of, (32) 74—ab, (49) 75—ab
  fracture of, isolated comminuted, (143) 268
  fusion of, to occipital bone, and manifestation of occipital vertebra, significance of, (25) 1111
Atony, vascular, of surgical shock, production and control of. (5) 1777—ab
Atoxyl and thioglycolic acid, mixture in nagana, (66) 1470
  and trypanocides, (43) 1039
  in malaria, (116) 266
  in sleeping sickness (29) 1378
  in skin diseases *1482
  in syphilis, (119) 442
  in urine, determination of, and course of elimination, (91) 1115
  influence of, on leucocytes, (115) 717
  influencing of malignant tumors by, (33) 797—ab
Atoxyl poisoning, pathology of, (67) 1193—ab
  resistance of trypanosomes to, (80) 539
Atresia, acquired, of introitus and vagina in adult, (13) 795
  complete vaginal, causing convulsions, (69) 1465
Atrophies reflex, necessity for early electric treatment in, (40) 537—ab
Atrophy, acute yellow, in syphilis, (72) 539
  acute yellow, of liver, (113) 170
  and hyperplasia in liver in consumptives, (101) 1472
  idiopathic, of skin, (27) (2004)
  in joint disease, cause of, (118) 1553—ab
  muscular, and scoliosis with infantile paralysis, (43) 1907
  muscular, progressive, (21) 261
  muscular, progressive, bulbar paralysis followed by, (12) 1283—ab
Atropin for incarcerated hernia, (10) 2011
  in gastric ulcer, (116) 1560
  in incipient myopia, (85) 715
  solution, in eye, unusual constitutional effects of, (153) 371
Attention, inability to concentrate adenoids and, (130) 470—ab
Auricle, conduction of impulse to, disturbance in, (59) 2097—ab
Auriculoventricular extrasystoles, auricular fibrillation and paroxysmal tachycardia, (81) 2004
Auscultation, abdominal, as aid in diagnosis, (3) 2234
  importance of making patient cough during, (160) 1037
  vertebral, in diagnosis of bronchial adenopathy, (70) 709—ab
Australia west hydatid disease in, (23) 80
Autodigestion, antipepsin for protection of stomach against, and for gastric ulcer, (68) 1558—ab
Autointoxication, (74) 710, (126) 950, (136) 1111
  gastrointestinal, ethereal sulphates in urine in, (45) 1822—ab
  intestinal, and treatment, (42) 946—ab
  intestinal, with unusual skin manifestations, (105) 1466
  or biliousness, (82) 1552
Automobile injuries, (94) 2195—ab
Autoprotective resources of body, (129) 260
Autopsies, first, at Philippine medical school, (31) 1185
  plea for habitual performance of, (13) 172
Autopsy work, head holder for, (146) 268
  work, importance of in general practice, (55) 2090
Autosuggestion in neurasthenia, (51) 538—ab
Autotoxemia of pregnancy, (61) 2091
Avian hæmoprotozoa of genus leucocytozoon, (33) 1190
Avicenna and Arabian medicine, (145) 534
Axilla, supernumerary mammæ in, (81) 82—ab
Axillæ, differences of temperature in, in acute appendicitis, (62) 1193 ab

B

Babies' dispensary, modern, (144) 1282
Babies, sick, summer camp for treatment of, *745
Baby farms, (20) 707—ab
  personally conducted, (2) 2000—ab
Bacilli See also Bacillus
  carrier, dysentery, (115) 1289—ab
  carriers and transmission of diseases, (35) 1038—ab
  carrier, endemic typhoid from, (77) 1825—ab
  carriers typhoid, *981
  carriers, typhoid, effective periods of, (11) 2235
  diphtheria group of, variablity in, (54) 2003—ab
  dysenteric, and infantile diarrhea, (50) 76
  dysentery, toxin and antitoxin of, (67) 954
  intermediary, typhoid with, (49) 1555
  lactic acid, (5) 2234
  lactic acid, cultures in nose, throat and ear work, (18) 348
  of human and bovine tuberculosis, (85) 1040
  of Malta fever, morphology of, (142) 1118
  paratyphoid, distribution of, (58) 264
  paratyphoid, resistance of, in dried human stool, (96) 2011—ab
Bacilli, tubercle, advances against, (25) 1190
  tubercle and allied micro organisms, (54) 1552
  tubercle, avian, bovine or human, ocular tuberculin test in guinea pigs infected with, (16) 1901—ab
  tubercle, and tuberculosis in man and cattle, (56) 2096—ab
  tubercle, chronic tuberculous endocarditis with, (58) 1738
  tubercle danger in using cow's milk containing, (2) 2233—ab
  tubercle, derivatives of, (75) 875
  tubercle, derivatives of, as antigen in tuberculosis and infectious diseases, deviation of complement with (106) 1383
  tubercle, experimental absorption of, from digestive tract in Java, (70) 1738
  tubercle, human and bovine, and tuberculosis, (84) 2194—ab
  tubercle, human and other types, transformation of, (1) 2088—ab
  tubercle, in dairy products at Leipsic, (131) 1117
  tubercle in sputum, tuberculosis occurring with and without, (128) 1828—ab
  tubercle, in urine, determination of, (112) 541—ab, (156) 1044—ab
  tubercle, may not drinking water, when contaminated with sewage be medium of transmission of, *389
  tubercle, non acid fast, significance of forms of, in relation to bacillus of leprosy, (45) 1737
  tubercle, of human type, infection with, (32) 866—ab
  tubercle, resistance of, to acids and alcohol, (43) 537
  tubercle, staining of, in tissue preserved in alcohol for 60 years, (105) 1282—ab
  tubercle substance precipitated with iron cutaneous reaction with, and tuberculin (72) 631
  tubercle, tuberculous changes without cooperation of, (85) 1381
  typhoid, pepsin digested, toxic and immunizing action of, (58) 2096
  typhoid, pure culture of, cholecystostomy with recovery of, from gall bladder, (37) 1640
  typhoid, scanty, detection of, (78) 799—ab
Bacillus coli communis, calculation of numbers of, from dilution tests, (77) 1466
  infection of respiratory organs, (166) 877
  infection of urinary tract, (32) 2190
  intestinal or bladder autoinfection with, (104) 1289
  rate of multiplication of, at different temperatures, (51) 2003—ab
  virulence enhancing property of bile in, (68) 1738
Bacillus bulgaricus, fate of, in digestive tract of monkey, (54) 1732 ab
  infections, pseudodiphtheria, and their response to therapeutic inoculations, (106) 869
  influenza, and other organisms in recent epidemic in Boston, (47) 1903—ab
  Klebs Loeffler, isolation of, in eczematous and bullous eruptions, (25) 1820
  lactic acid, in digestive tract, and functional gastric disturbances, (62) 1910—ab
  longus, determination of in feces, and its significance, (95) 176
  of epizootic abortion, biology of, (36) 712
  of gaseous phlegmon, pathogenic importance of, (127) 1474
  of leprosy, significance of forms of non acid fast tubercle bacilli in relation to, (45) 1737
  of mind and its decrees, (20) 439
  of soft chancre, inoculability of, in rabbits' cornea, (113) 1914
  plague, differential diagnosis of, (30) 628
  typhosus, flies as carriers of, (12) 1735
  typhosus modification of Drigalski Conradi litmus lactose agar, for isolation of, (11) 622
  typhosus placental transmission of, (52) 532—ab
  paratyphosus type A, illness caused by, and its pathologic appearances, (120) 1852—ab
Bacteria, action of tears on, (100) 1196
  agglutination of red corpuscles by, (104) 860
  anaërobic importance of, in appendicitis, (116) 2196
Bacteria and leucocytes, contrast staining of, (61) 630
  and sunshine, (125) 521
  colon aerogenes group of, (112) 869
  dead, phagocytic immunity and, therapeutic injection of, in endocarditis, *1571
  distribution of, in bottled milk and application to infant feeding, (146) 1282
  galvanotropism in, (74) 350—ab
  in milk, methods of determining, (53) 2003—ab
  injected stained, (47) 1555
  pathogenic, latent persistence and reactivation of, in body, (20) 2190
Bacterial count, mathematics of, (59) 1108
  infection, resistance of diabetics to, (26) 1550
  inoculations, (113) 1282
  vaccines, inoculation of, (120) 442
  vaccines in pyogenic processes, (82) 792—ab
Bactericidal action of extract of leucocytes of rabbits and guinea-pigs, (61) 1039
Bacteriemia, puerperal, (77) 447—ab, (52) 867—ab
Bacteriologic technic, (92) 1912
Bacteriology and epidemiology in fight against typhoid fever, (58) 446
  and pathology of acute rheumatism, (128) 1553
  and pathology of plague, (68) 1818
  and prognosis, (96) 83
  intestinal, fermentation tube in, (53) 1731
  of acute rheumatism, (40) 2002
  of puerperal uterus, (38) 866—ab
  practitioner's need of, (123) 793
Bacteriolysins, hemolysins and opsonins, (97) 716
Bacteriotherapy See also Vaccine Therapy
  advancements in eye, ear, nose and throat work through, (68) 1732
Balance restoration of, in regard to space in thorax after extirpation of one lung, (54) 1909
Balneologic courses, effectual, (111) 1116
Balneotherapy, importance of minimal values in, (94) 1382
  in ear affections, (84) 715
  in heart and vascular affections resulting from metabolic disturbances, (85) 176
Bandage, pressure, for leg, (86) 77
  roller, flannel, in umbilical hernia in infant, (40) 440
Bang's method for titration of sugar, (75) 264
Banks, W M, his life and works, (8) 2005
Banti's Disease See Splenomegaly
Barium chlorid, action of, on fowl's muscle, (45) 1817
Barlow, Columbus, memoir of, (62) 76
Barracks, portable shed, (114) 1560
Bartholinitis, acute and chronic, (49) 1285—ab
Bath treatment at Mt Clemens for nervous patients, (108) 442
  continuous, in surgery, (93) 265 ab
Baths, air, in tuberculosis, (101) 1560
  and exercises in treatment of heart disease, (75) 1036—ab
  artificially carbonated, (96) 876
  artificially carbonated and oxygenated, in arteriosclerosis, (79) 955
  artificial sulphur, (97) 876
  brine and seashore in tuberculosis of glands, (54) 445
  carbonated mineral, and auxiliary exercises, in chronic heart diseases, (77) 1110—ab
  hot, at Hot Springs, (52) 1817
  incandescent light, in chronic bronchial affections, (72) 798—ab
  mineral, Mount Clemens, physiologic action of, (8) 706
  moving air, and light, in general affections, (72) 1470—ab
  of Schinznach, Switzerland, (22) 871
Battlefield, wounded on, care of, in modern war, (52) 623
Beard's theory in crucible of test, (8) 944
Beauperthuy, Dr Louis Daniel, and yellow fever, (6) 72—ab
Bedbug, preservation of plague bacillus in, (51) 415
Bee stings and rheumatism, (2) 1644—ab
Belladonna and aconite, physiologic antagonism between, (13) 951—ab
  poisoning, *1896

Bengal, puerperal diarrhea of, (5) 2005
Beriberi, (79) 2004
  etiology of, and presence of arsin *in rice*, (9) 2234
  laryngeal disturbances in, (54) 174
Berlin, microsporon epidemic at, (105) 358
  mortality from tuberculosis in, causes of decline of, (40) 712-ab
  postgraduate study in, (26) 866
Beurmanni, sporotrichum, epididymitis, orchitis and vaginalitis from, (43) 1737
Bichat: his life, researches and character, (63) 709, (72) 1035
Bier cup, application of, in recent empyemas, *572
  Hyperemia: See also Hyperemia constriction, Hyperemia suction, etc.
  Klapp suction method in suppurations of neck, (53) 257
  method for practitioners, (15) 795
Bile agar cultures, in diagnosis of typhoid, (95) 447
  channels and gall bladder, inflammation of, without gallstones, (96) 448—ab
  congestion of, disturbances in portal circulation from, (135) 267
  duct, common, and ampulla of Vater, melanotic sarcoma of, (106) 260—ab
  duct, common, cause of sudden fall in blood pressure while exploring, (35) 1731—ab
  duct, common, complete obstruction by melanosarcoma, (129) 78
  duct, common, consequences of stenosis or obliteration of, (131) 1013
  duct, common, melanoma of Vater's diverticulum and lower portion of, causing complete obstruction, (152) 870
  duct, common, removal from, of 2½ ounce calculus, (32) 2089
  duct, common, resection of, (142) 359
  duct, common, ruptured, operation, recovery, (54) 1469
  duct, intrapancreatic segment of, a landmark in biliary ducts, (26) 2186
  ducts and gall bladder, syphilis of, (59) 1903
  ducts, surgical anatomy of, (64) 1286—ab
  hemolytic action of, and its inhibition *by blood serum*, (45) 1464—ab
  in experimental production of colitis *in animals*, (40) 236
  media and Smith's solution, use of, (76) 1466
  pigment, determination of, and its clinical importance, (122) 359
  virulence-enhancing property of, in typhoid and colon bacilli, (68) 1738
Bilharziasis among women and girls in Egypt, (17) 1906
Biliary, surgery, (70) 792
Biliary-tract and gall bladder, pathologic anatomy of, (145) 1188
  and pancreas, jaundice due to disease of, (15) 1106
  difficulties and dangers in operations on, (59) 1035—ab
  inflammations of, medical treatment of, (3) 1900—ab
  results of operations on, at Hochenhogg's clinic, (85) 715
  results of surgery of, (162) 171
  shovel retractor for operations on, (80) 2097
  traumatisms of, operative treatment, (51) 1285—ab
Biliousness or autointoxication, (82) 1552
Bilirubin content of pneumonic sputum, (113) 717
Binders, infant, dangers and evil effects of, (11) 172—ab
Bi-nitrobenzin poisoning, chronic, unusual case of, (8) 1189
Biology, what subjects can be pracically included in year's work in? (19) 707
Bionomics of fleas, (27) 628
Birth, edema persisting since, (28) 872
Bismuth carbonate, intoxication with bismuth subnitrate and its substitution with, (123) 1042
  in diagnosis of conditions of esophagus and stomach, (16) 1283
  poisoning, (73) 1558, (4) 2234
  poisoning, fatal, (116) 2012—ab
  salts and functions of stomach, (18) 1283
  subnitrate, intoxication with, and its substitution with bismuth carbonate, (123) 1042
Bismuth subnitrate, nitrite poisoning from, (73) 1558
  vaselin paste injections, (20) 1372
Biuret test for pepsin in stomach content, (169) 87
Bladder affections, retention catheterization in, (182) 87—ab
  and prostate, cysts near, (83) 1471—ab
  and uterus, traumatic rupture of, during labor at term, *1406
  and vagina during pregnancy, histologic peculiarities of, (113) 1117
  apparatus to collect urine after operations on, (75) 1114
  carcinoma, radical treatment of, (33) 1372—ab
  carcinomatous degeneration involving one-third of, with dermoid cyst of ovary, (110) 1110
  extroversion of, implantation of ureters into rectum for, in woman, by modified Peter's operation, (9) 1820
  female, (91) 1819—ab
  exstrophy of, apparatus for compressing pelvis in Trendelenburg's operation for, (99) 358
  extirpation of, (42) 1641
  hernia, (75) 2097—ab
  impaction of pubic arch in, fractures of pelvis and femur and trauma of kidney, recovery, (87) 948—ab
  involvement, postdiphtheritic multiple neuritis with, (13) 255
  lavage, apparatus for, (70) 264
  method of dissolving foreign bodies in, (112) 717—ab
  neuroses, (68) 76—ab
  operations, simple instrument for, (111) 717
  or intestinal autoinfection with colon bacillus, (104) 1289
  or prostate, advanced cancer of, bilateral ureterostomy in, (16) 443—ab
  prolonged irrigation and drainage of, after prostatectomy, (80) 948—ab
  rupture of, traumatic, (59) 1642—ab
  sphincter, cure of insufficiency of, by drawing forward uterus, (138) 1117
  stone, and prostatectomy, (70) 258
  stone, nucleus of which was revolver bullet, (9) 951
  stone, with intermittent pneumaturia for 3 years and subsequent formation of fecal fistula, (111) 260—ab
  stone, x-ray diagnosis and treatment of, (157) 360—ab
  stones, (27) 531, (90) 1186, (75) 1642, (6) 2189
  stones, renal origin of, *885
  suture, indications and results, (46) 797
  tuberculosis, (18) 1730, (23) *1901*—ab, (70) 2003—ab
  tumors, (134) 626, (15) 2186—ab
  tumors, in children, (76) 1912—ab
  tumors, transperitoneal removal of, (41) 791—ab
  wounds, gastric and duodenal ulcers secondary to, (105) *260*—ab
Blastomyces, cases probably mycotic, but not evidently due to, *1868
Blastomycetes in blood, (139) 1744—ab
Blastomycosis, resembling bone tuberculosis, (117) 1553—ab
  systemic, etiologic, pathologic and clinical features; and coccidioidal granuloma, (17) 944
Bleaching pigmented tissues, improved method of, (125) 1282
Blepharitis, rational treatment of, (99) 1037
Blindness following injection of protargol in lachrymal sac, (101) 442
Blood affections, treatment of, and regeneration of blood, (84) 955
  alkalinity of, (52) 168
  amount of, in human beings, (68) 446—ab
  analysis in appendicitis, (8) 348—ab, (85) 625—ab, (129) 1640, (44) 1641
  and iodin, viscosity of, (53) 873—ab
  and other body fluid, sodium chlorid content of, clinical method of determination, *478
  and urine, suprarenal products in, (93) 358
  anemia from deficient production of, (46) 713
  aneurism impeding supply of, to brain and arms, (85) 2009
Blood, arterial, attempts to resuscitate animals by passing through heart and central nervous organs, (113) 2196—ab
  blastomycetes in, (139) 1744—ab
  carbon *monoxid in*, determination of, (89) 176
  cells, origin of, (127) 78
  changes in abdominal cases requiring immediate operation, (66) 1642
  circulating, multiplication of piroplasma bovis and piroplasma pithcci in, compared with piroplasma canis, (47) 1039
  clinical importance of determination of antitrypsin in, (61) 1380
  coagulating property of, importance *of proteolytic leucocyte ferment* in, (96) 2099—ab
  composition of, in relapsing fever, (125) 359
  content when water is ingested, (64) 2096
  corpuscles and histologic modes of destruction of, rôle of spleen in production of blood pigment, (27) 796
  corpuscles, bacterial agglutination of, (104) 800
  corpuscles, influence of morphin on resistance of, (100) 799
  corpuscles of foreign species, sudden death following injections of, (53) 1903—ab
  corpuscles, red, effect of heated serum on rouleaux formation of, (46) 1464
  corpuscles, red, mica plates for research on, (122) 1474—ab
  counting apparatus, devices for increasing usefulness of, (190) 171
  count, differential, in the diagnosis of empyema in children, (109) 949
  culture studies, occurrence and significance of negative results in, (37) 1902—ab
  cultures in typhoid, (33) 866—ab
  direct transfusion of, and suture of bloodvessels by vascular anastomoses, (25) 1278
  disease and sarcoma, (85) 2004—ab
  diseases, (123) 260
  diseases, transmissibility of, (103) 1740
  dust, (105) 541
  donor's, adaptability to receiver's in transfusion, (53) 947—ab
  examination, diagnosis of African tick fever from, (33) 1185—ab
  examination, in exophthalmic goiter, (68) 1286—ab
  examination in surgical diagnosis, (47) 257
  examination of, in peripheral vascular provinces with circulatory disturbances, (134) 1117—ab
  examinations, interpretation of, (12) 1639
  ferricyanid method for determining gas in, (99) 83
  findings of pernicious type in severe *anemia, *1973*
  formed elements of, influence of phosphorus intoxication on, (102) 83
  guaiac test for, (69) 714
  hematin and iron in, proportions of, (67) 2096
  importance of antitrypsin in, (55) 797
  in acetonemia, periodical in children, (112) 1289—ab
  in acromegaly, (86) 1288—ab
  in ankylostomiasis, (7) 794
  in exophthalmic goiter and thyroidism, (70) 1558—ab
  in gonorrhea, (125) 1290
  in infectious disease, leucocytic changes in, (71) 174
  in Malta fever, (154) 360
  in meningitis, (101) 177—ab
  in myxedema, (124) 359
  in pellagra, experimental, (113) 1383
  in pernicious anemia, (36) 952—ab
  in puerperal infection, (75) 82—ab, (48) 1113, (111) 1473—ab
  in splenic anemia and splenectomy, (30) 866—ab, (16) 1462
  in trypanosome infections, acidity and alkalinity of, (41) 1038—ab
  in typhoid, (105) 800
  in typhoid, determination of antigens and antibody in, (65) 1738
  in urine, determination of, by spectroscopic-chemical methods, (101) 716
  in urine, hydrogen dioxid test for, 988—ab
  leukemic, chemical composition of, (113) 1826
Blood, method for measuring clotting time of, (66) 1109
  method of expelling, from lower half of body, (113) 177—ab, (90) 1472—ab, (121) 1742—ab
  modifications in, in preventive hemostasis with Esmarch-Silvestri technic, (125) 178
  mononuclears of *guinea-pigs*, Kurloff's bodies in, and their protozoic nature, (62) 1823
  morphologic study of, at bedside, (68) 174—ab
  morphology of, in pertussis, (36) 1463—ab
  occult, in stools and stomach contents, in gastrointestinal affections, (97) 83—ab
  of hydrophobia patient, (3) 78-ab
  of miner killed in explosion in bituminous coal mine, examination for carbon monoxid in hemoglobin of, (64) 1109
  picture, neutrophile, in incipient acute appendicitis, (85) 1288—ab
  picture, neutrophile, in infectious diseases, (129) 1475
  pigment, histologic modes of destruction of blood corpuscles and rôle of spleen in production of, (27) 796
  pneumococcus in, in pulmonary tuberculosis, (60) 1823—ab
  producing organs, histologic changes in, in pernicious anemia, (92) 176
  production and artificial hemolysins, (112) 1383—ab
  production, extrauterine, (91) 176—ab
  putrefying, viscosity of, (151) 360
  regeneration, and treatment of blood affections, (84) 955
  retrogression to embryonal conditions in, (62) 174
  ring-bodies in, in anemia, (72) 174
  serum, action of drugs on, (84) 356—ab
  serum, antitrypsin and antipepsin *in, (145) 1475*
  serum, antitryptic power of, in cancer, (89) 83—ab, (63) 714
  serum, hemolytic action of bile and its inhibiton by, (45) 1464—ab
  serum, influence of on proteolytic leucocyte ferment, (103) 81
  serum in malignant disease, cytolytic factor occurring in, *915
  serum, modifications in, from heating it, (63) 446
  serum, normal, pro-infective action of, (40) 1464—ab
  serum of typhoid carriers, complement-binding substances in, (145) 86
  serum, phagocytosis in, when mixed in vitro with horse serum, (5) 951—ab
  specific gravity of, value of taking during saline transfusion in cholera, (36) 2191—ab
  stain, improved technic *for* Romanowsky, (68) 954
  stains medicolegally considered, (45) 1185
  streptococcus aggressins in, in puerperal sepsis, (89) 799
  study of, by general practitioner, (98) 1382
  transfusion, new method of, (14) 2089—ab
  transfusion of, in the transplantable lymphosarcoma of dogs, (91) 869
  treatment causing variations in calcium content of, (28) 945
  tuberculosis immune, treatment *of* tuberculosis with, (76) 1471—ab
  variations in calcium content following *therapeutic* measures, (28) 945
  vessel anastomosis by rubber tubing, (18) 1550—ab
  vessel surgery, physiologic aspects of, *1658
  vessels, action of drugs on, (65) 2003
  vessels, cerebral disease of problems and diagnosis, *179
  vessels *and organs, permanent results of transplantation of*, (79) 2194—ab
  vessels, experimental pathology of, (104) 177
  vessels, heart and lungs, diseases of, (97) 1281
  vessels, large, and diameter of heart, percussion of changes in, in fevers, (130) 1562—ab
  vessels, large, clamping of, near heart in operation for pulmonary embolism, (76) 2097—ab

Blood vessels, large, necrosis of limbs after ligation of (50) 797—ab
  vessels, pulmonary, abnormalities of, (141) 1111
  vessels, pulsating in throat, (133) 1117
  vessels, pulsating, in worms physiology of, (51) 1108
  vessels, serous coat of, compared with peritoneum, (32) 790—ab
  vessels, suture of, and direct transfusion of blood by vascular anastomosis (25) 1278
  vessels, transplantated drainage of ventricles of brain by, (38) 2095—ab
  vessels, transplantation and anastomosis of, (141) 268
  vessels, uterine and ovarian in dogs, hemorrhage following section of, and its bearing on ruptured pregnancies, (31) 1816—ab
  viscosity, *1653, (79) 1825, (65) 2096
  viscosity, changes in at high altitudes, (139) 85
  viscosity, importance of determination of, (66) 2097—ab
Blood pressure and obstetrics, (26) 945—ab
  and polycythemia, (80) 2009—ab
  apparatus for graphic registration of, (73) 1193
  arterial in surgical kidney affections and appendicitis, (65) 356
  cause of sudden fall in, while exploring common bile duct, (35) 1731—ab
  clinical estimation of, by finger and hemomanometer, (10) 1644
  factors in estimation of, *1000
  general principles regulating, (50) 873
  high arterial and retinal hemorrhages, (104) 1733—ab
  high from renal changes in hemorrhage into pons, (51) 1468
  in arteriosclerosis (27) 1550
  in brain diseases and injuries (81) 1818
  in eclampsia, (35) 256 ab
  in chronic nephritis (104) 84
  in man, its measurement and regulation, (2) 1735—ab
  in neurasthenia, (4) 626—ab
  in tuberculosis at high altitude (18) 944—ab
  increased and cerebral hemorrhage, (47) 2090—ab
  lowering reflexes from irrigation of chest in empyema, (26) 1816—ab
  measurement of comparison of technics for (78) 447
  measurement of, in chronic nephritis (68) 1911—ab
  normal and pathologic association of age and incipient cataract with *400
  obstetric importance of, and its relation to work of heart, (116) 177
  systolic and diastolic, measurement of, (98) 1041—ab
  systolic, measurement of, (46) 1285—ab
  venous, instrument for determination of (47) 1464
Body elevator and support for operations on the abdomen and trunk, *196
  production of agglutinins in, by inoculation of substances other than products of bacterial origin, (157) 870
  weight and heart weight in various animals, the ratio between (156) 870
Bolus in diphtheria (100) 176
Bone affection, Köhler's, etiology of, (125) 2197
  cysts osteitis chondromata and similar affections (80) 632
  free, plastic operations and attempts at transplantation of joints and stiffening joints (79) 1040—ab
  hyoid caries of, *1425
  infections non tuberculous, about hip joint, (14) 1184—ab
  lesion Roentgenologic discussion of, (80) 77
  marrow atrophy of, experimental production of, with typhoid toxin, (66) 174
  marrow sclerosis of, spleen as hematoplastic organ, as exemplified in case of splenomegaly with (111) 870
  neoformation of at distance from periosteum (99) [illegible]
  regeneration from periosteum (105) 77
  surgery motor fo (50) 1034
  temporal, (87) 441
Bone, temporal, surgical anatomy of, and its bearing on spread and cure of suppuration, (137) 1906
  temporal, suppuration of, (137, 139) 950
  temporal, suppuration of, treatment other than surgical, (60) 1280
  tuberculosis, (68) 948—ab
  tuberculosis blastomycosis resembling (117) 1553 ab
  tuberculosis surgical, (47) 2188
Bones and joints affections of, tuberculous origin of, in man and dog causing hypertrophy, (47) 1822
  and joints, syphilis of, (57) 947
  and joints tuberculosis of, opsonic therapy in, (32) 256
  in children undescribed affection of, (116) 1474—ab
  long, extension treatment of fractures of shaft of, (37) 1190—ab
  long, fracture of, (55) 1185—ab
  long fractures of, necessity for end to end apposition in,(31) 1737—ab
  long, hydatid disease in, (71) 1114—ab
  maxillary, compound comminuted fractures of, *1697
  metacarpal, fractures of (30) 1736
  of forearm, direct and internal splintage by operation in fractures of, (37) 1379—ab
  of leg, shortened lengthening, by operation, (42) 256
  Paget's disease of, (70) 1911
  plastic operations on, (75) 1040—ab
  supernumerary, in wrist and ankle and sesamoid bones, in Roentgen picture, (130) 85
  temporal surgery of, (139) 2198
Books, disinfection of (61) 1108—ab
Borax in epilepsy, (91) 1825
Bothriocephalus latus, (13) 73
Botryomycosis in man, (56) 81
Bougies for dilation of infundibulum (23) 1467
Boulder Lodge Sanatorium, light treatment of disease at, (9) 255
Bowel, gunshot wound causing rupture of, without damage to peritoneum, (157) 171
Bowleg, spontaneous correction of, greater tendency to, than of knock knee, (106) 77
Boy of three, ileocolitis in, complicated by tapeworm, (111) 1282
Brachial plexus, traumatic paralysis of unilateral paresis of diaphragm with involvement of sympathetic due to, (77) 1381
Brachydactylia, congenital ankylosis of fingers with (81) 1287
  hereditary, (8) 1554
Brain abscess, *667
  abscess and pyonephrosis, *756, (108) 1466
  abscess diagnosis of, (91) 632—ab
  abscess, extradural (129) 870
  abscess of otitic origin, (9) 627, (88) 793, (138) 950
  abscess, otitic, diagnosis of, (93) 2092
  abscess, partial auditory and visual aphasia with object blindness due to, (82) 869
  abscess with chronic purulent otitis media (34) 1551
  affections, fatal, without apparent lesion (91) 1559
  affections, focal localization of, importance of motor disturbances in external ocular muscles for, (84) 447—ab
  and arms, aneurism impeding supply of blood to, (85) 2009
  and eye complications of anemia and relationship to thrombosis, (26) 1378—ab
  and spinal cord ocular manifestations of organic diseases of, (97) 1643
  aneurisms of vessels of, (2) 1189
  anomalous and pathologic conditions of vascular system of, (73) 1186
  artificial hyperemia of in incipient arteriosclerosis (71) 955—ab
  blood pressure in disease and injuries of, (81) 1818
  centers for taste and smell, and uncinate group of fits *879
  complications of otitic origin (19) 531, (62) 624, (77) 625 (144) 676—ab (9) 627 (88) 793 (125) 870 (138) 950, (131) 1734, (27, 28) 1820 (88) 2092
  concussion, (24) 531—ab
  concussion contusion and compression ocular symptoms of (85) 1466
  cortex structure of (78) 2009
  diagnostic phenomenon in diseases of *461
Brain, diagnostic puncture of, (64) 714
  disease, headache of, (63) 1035—ab
  findings in infants with inherited syphilis, (80) 1912—ab
  glioma of, (8) 255
  glioma of, involving pia mater, (7) 2185
  hemorrhage, extensive, life after, *2101
  hemorrhage in, operation for, (76) 76
  hernia, anatomy of, (55) 1556
  influenza, (9) 79—ab
  inhibition of, and motor function, *183
  neuroglioma gangliocellulare of, (10) 438
  non penetrating trauma of, operation for, (34) 790—ab
  puncture, (12) 1554, (5) 1820—ab
  rheumatism of, (131) 717—ab
  sarcoma, successful removal of, in region of left sensory motor convolutions, (88) 358
  surgery (63) 630—ab
  symptoms in hydrocephalus, *1933
  syndrome cured by antisyphilitic treatment, (127) 717—ab
  syphilis, diagnosis and treatment, (97) 1036
  traumatism of, (74) 1818—ab
  tuberculosis with paralysis of both third nerves, (37) 1821
  tumor, (71) 1375—ab
  tumor, autopsy record, (14) 1032
  tumor in frontal lobes, with symptoms simulating paresis, (73) 792
  tumor in temporal lobe, *879
  tumor localized and removed, symptomatology of lesions in parietal lobe (34) 1108—ab
  tumor successful removal of, (98) 1196
  tumor, symptomatology of, (81) 1825
  tumor, three cases, *1057
  tumors, diagnosis of, (155) 86—ab
  tumors in children, (83) 82—ab
  tumors, ocular symptoms of, (85) 1036—ab
  tumors, pathology of (43) 953—ab
  tumors, surgery of, (114) 541—ab
  vascular lesions of right side, and progressive, left sided hemiplegia due to gliosis, (70) 1035—ab
  ventricles drainage of, by transplanted blood vessels, (38) 2095—ab
  ventricles, subcutaneous drainage of, in hydrocephalus, (78) 356—ab
  vessels disease of, with problems in diagnosis *179, (155) 950—ab
Branchial cleft, first, sinus of, (33) 1033—ab
Brazil climate and diseases of, (27) 712
Bread, sawdust, in treatment of habitual constipation (85) 539—ab
Breast abnormal secretion from, in non pregnant women, *1839
  cancer indications for operation (22) 1190—ab
  cancer operation and after treatment (98) 876
  cancer, permanent cure of, (58) 713—ab
  cancer of, recurrence at late period after operation for, (32) 1731—ab
  cancer treatment of, (52) 1279
  conditions that require removal of child from, (34) 167—ab
  eczema of nipple with carcinoma of, (40) 1555
  feeding importance of, for reduction of infant mortality, (107) 1473—ab
  milk secreting cyst in, (144) 1744—ab
  nursing influence of on infants in first few days after birth, (114) 877
  plastic reaction of, and its bearing on incision of breast tumors, (16) 79
  tumors in childhood, (31) 2090—ab
Breasts carcinoma of, (46) 1468—ab
  hypertrophy of in exophthalmic goiter in man of 52, (96) 956
  pendulous mastopexy for, (85) 1381
  supernumerary, in axilla, (81) 82—ab
Breathing exercises in chronic bronchitis, (85) 356—ab
  tract, resistant, (13) 1901
Bristol Royal Infirmary, early history of (47) 1468
British Medical Journal, educational number, (1) 1189
Bromid excretion of, by kidney, (61) 550
Bromin, pharmacology of, (75) 2009
Bromural (3) 165 (5) 255
  isopral and chloral hydrate comparative study of dosage and effects of, on cats, *457
Bronchial affections outdoor treatment of, (28) 354—ab
  and mediastinal glands enlarged, determination of (81) 715—ab
  asthma, electric treatment of, (82) 2194—ab
  asthma in children, (60) 874—ab
  glands and apices, tuberculosis of, x ray diagnosis in, (46) 1192—ab
  stenosis and bronchiectasis, relation of, (144) 1111
Bronchiectasis, (36) 1646
  early diagnosis and treatment, (102) 2011
  in fetus, (50) 81
  and bronchial stenosis, (144) 1111
Bronchitis, acute fibrinous, (61) 1035
  acute, peculiar phases of, (64) 76
  chronic, cure of, by breathing exercises, (85) 356—ab
  chronic, incandescent light baths in, (72) 798—ab
  chronic, inhalation of fumes of nitric acid in, (154) 1475—ab
  subacute, (139) 442
  suppurative, bacteriology of, (100) 541
Bronchopneumonia, (149) 1906
  and lobar pneumonia, symptomatology and diagnosis of, in children, (46) 623
Bronchoscope and esophagoscope, for location and removal of foreign bodies in air and food passages, (132) 1734
  esophagoscope and gastroscope, use of, (16) 790—ab
Bronchoscopy and esophagoscopy, (102) 793
  laryngoscopy and esophagoscopy, (26) 1467
Bronchus, left, foreign body in, (9) 1189
Brooklyn's contribution to medical progress, (107) 949
  hospital dispensary, work in, first surgical division, (6) 1729
Budapest Asylum for friendless children, (87) 82
Buffalo Academy of Medicine, activities and interests of, (106) 1282
Bugs, extirpation of, (146) 1118—ab
Bullet, revolver, as nucleus of vesical calculus (9) 951
Bundle of His, Adams Stokes' disease with induration in, (57) 630—ab
Bunion, surgical treatment of, (49) 1034
Buphthalmos, (128) 1188
Burns and scalds, (121) 1734
  and scalds, management of, (32) 354
  in childhood, arrested local development from, (50) 355
  treatment of, (92) 799—ab
Bursitis, (16) 1639—ab
  subacromial, or periarthritis of shoulder joint, (16) 1639—ab, (17) 1730—ab, (4) 1815—ab, (17) 1901—ab (17) 2001, (5) 2088, (19) 2234—ab
  subdeltoid, (16) 1639—ab, (17) 1730, (4) 1815—ab, (17) 1901—ab (17) 2001, (5) 2088, (19) 2234—ab
Button, galalith intestinal, (61) 356

C

Cactus grandiflorus as cardiac remedy, (60) 2188
Caffein free coffee, (87) 2009
Caisson Disease See Compressed Air Illness
Calabria, antimalaria campaign in, (155) 1475
Calcaneo cavus, paralytic, operation for, (97) 77—ab
Calcaneum, and tibia, amputation above malleolus, with osteoplastic operation on, (46) 1822
  tarsectomy retaining, (72) 1039
Calcium chlorid, aortic aneurism relieved by, (37) 1555—ab
  content of blood variations following treatment, (28) 945
  hypochlorite, for sterilization of potable waters, (14) 2235
Calculi, formation of, after prostatectomy, (94) 2092
  of Bladder See Calculi Vesical
  renal, (61) 1556
  renal, and pyonephrosis in pregnant woman, induced labor, nephrectomy, recovery, (18) 1639
  renal and ureteral, x ray diagnosis of, (80) 77, (67) 169—ab, (19) 1253
  renal fibrinous (35) 1372
  renal, nephrolithotomy, subsequent nephrectomy on account of hemorrhage, (8) 951
  renal, pathologic, clinical and surgical phases, (58) 1642
  renal, temporary hemostasis during removal of, (110) 2009—ab

Calculi, production of, in upper urinary passages after spinal injury, (70) 2097
  ureteral, (31) 167—ab, (149) 442, (13) 622, (104) 949
  vesical, (27) 531, (90) 1186, (75) 1612. (6) 2189
  vesical, renal origin of, *885
  vesical, x-ray diagnosis and treatment of, (157) 360
Calculus and tuberculosis, results of operation on kidney for, (143) 353—ab
  biliary, large, removed from common bile duct, (33) 2089
  renal, (59) 2003
  renal, diagnosis and treatment of, (140) 353—ab, (106) 1905—ab
  renal, impacted, symptoms, diagnosis, treatment, (65) 258
  tuberculosis of kidney, perinephric abscess and, (141) 353—ab
  vesical, nucleus of which was revolver bullet, (9) 951
  weighing two pounds, successful removal of, (6) 710
California, plague in, and antiplague campaign, *1010
Calmette's Ocular Reaction: See Tuberculin.
Calomel and podophyllin habit, (122) 793
  insufflation of, in nose in syphilis, (79) 264
  ointment, syphilitic prophylaxis by use of, (13) 1639
  salve, failure of, to protect against syphilis, (90) 176—ab
Camp. summer, for sick babies, *745
Camphor water and cherry laurel water in collyria, (143) 170
Camps and hospitals, consumptive, are they menace to neighborhood? (149) 360—ab
Canada, medicine in, (143) 534, (106) 1644
Canal of Cloquet, (39) 946
Canal Zone, three years medical and sanitary record in, (8) 78—ab
Cancer: See also Carcinoma.
  advanced, of bladder or prostate, bilateral ureterostomy in, (16) 443—ab
  analogy between spontaneous recoveries from, and specific immunity induced by x-ray irradiations of lymphatic glands involved, (9) 1735
  and cirrhosis of liver, with neoplastic infection of nerves and arteries, (128) 1914
  and tuberculosis, descendants of persons who have died of, (100) 1382—ab
  and tuberculosis, hemolysis in, *2036
  antitryptic power of blood serum in, (89) 83—ab
  Beard's theory of, (8) 944
  cataphoric sterilization in, (168) 950, (93) 1377. (123) 1820
  cells and other cells, explanation of difference between, (163) 1476
  cells, apparent anaplasia of, (117) 877
  chimney-sweeps', (22) 1038
  clinical notes on, (89) 447—ab
  cytologic factor in blood serum in, *915
  early, about pylorus, (110) 949
  etiology of, (34) 712, (40, 41) 797—ab
  excision of rectum for, (24) 1107—ab
  formic acid derivatives in, (6) 1467—ab
  functions and relations of syncytium to toxemia of pregnancy and, (50) 947—ab
  hemolytic reactions in, (46) 1903—ab
  heredity in, (3) 2190—ab
  in Travancore, South India, (12) 2005—ab
  inoperable, (1) 1371—ab
  inoperable, palliative treatment of, (6) 2005
  inoperable, treatment of, (68) 441—ab, (2) 1553—ab
  is it a disease of locality? (72) 2003—ab
  lightning treatment of, (108) 541 ab, (52) 713—ab, (115) 1474—ab, (75) 1739, (97) 2011
  Mammary: See of Breast.
  mouse, transplantable, resistance of, to freezing with liquid air, (55) 2003—ab
  new lymphatic vessels in, in metastases of round-celled sarcoma, (145) 1111
  non-relationship of active cell division to prognosis, *910
Cancer of appendix, primary: See Carcinoma
  of breast, diagnosis and treatment of, (9, 10) 1554
  of breast; indications for operation, (22) 1190—ab
  of breast, late recurrence of, (32) 1731—ab
  of breast, operation and after-treatment, (98) 876
  of breast, permanent cure of, (58) 713—ab
  of breast, treatment of, (52) 1279
  of cervix, immediate mortality of abdominal hysterectomy for, (14) 2190
  of cervix, results of vaginal ablation of, (110) 1383—ab
  of cheek involving jaw, method of operation in, (31) 1730—ab
  of colon, (4) 1553
  of epipharynx, primary, (64) 1280
  of esophagus, (20) 1190
  of female genital organs, treatment of, (39) 354—ab
  of gastrointestinal tract, (115) 78
  of intestine, and foreign bodies, (57) 2008—ab
  of large intestine, (130) 442
  of large intestine, colectomy for, (47) 629—ab
  of liver and spleen, cytologic examination of case of diagnosed clinically, (141) 1734
  of liver or kidney in small children, (97) 1472
  of mouth and tongue, (30) 1730—ab
  of mouth, in southern India, (14) 79—ab
  of nose, (97) 1552
  of ovary with other tumors, (80) 82
  of pancreas, (45) 1908—ab
  of pylorus; gastrectomy; gastrojejunostomy; no recurrence, (110) 949
  of rectum, (77) 948, (5) 1031, (14) 1106, (9) 1183, (4) 1276—ab
  of rectum, high, technic for removal of, in men, (91) 1471
  of rectum, pregnancy and labor complicated by, (42) 1284
  of rectum, radical cure of, improved technic for, (53) 1279
  of rectum, selection of method of operating in, (16) 1554
  of rectum, treatment of, (47) 440
  of rectum with anuria, (58) 2008—ab
  of sigmoid and rectum, surgery of, (27) 167—ab
  of stomach: See Gastric Cancer.
  of testicle, condition of glands in, (42) 873—ab
  of tongue, excision for, (74) 76
  of uterus: See Uterine.
  operations, abdominal, what can be learned from cystoscopy in regard to indications and prognosis for? (116) 877—ab
  operations and danger of cancer infection, (30) 1821
  operations, technic of, and danger of cancer infection, (23) 1554
  patients, antitryptic power of human blood serum in, (63) 714
  plastic resection of breast and, (16) 79
  problem, modern aspects of, (43) 256—ab, (26) 531
  propaganda against in Uruguay, 203—ab
  proteolytic cellular activity of, (140) 1043
  radiotherapy of, biologic principles of, (84) 2010—ab
  removed from sphenoidal sinus, (79) 2097
  research, (95) 1740—ab
  septicemia, secondary, (22) 2236—ab
  statistics, appeal for uniformity in, (90) 1195—ab
  superficial, treated by radium bromid, *894
  surgery of, at dawn of 20th century, (52) 1556—ab
  surgical treatment of, (3) 1815—ab
  uterine, clinical manifestations of, (132) 442
  uterine, diagnosis of, (148) 268—ab
  uterine, hysterectomy for, (59) 2008—ab
  uterine, incomplete operation for, and long freedom from recurrence, (112) 1914—ab
  uterine, plea for early diagnosis of, (118) 534
  uterine, pregnancy complicated with, (90) 1825
  value of diminished cardiac dullness in diagnosis of, (9) 871—ab
  x-ray in, (56) 947—ab, (84) 2010—ab
Cancers, abdominal, secondary implanted, (82) 356—ab
  melanotic, of vulva, (131) 359
  mouse, spirochetes in, (93) 176
  multiple, (132) 178—ab
Cannabin tannate, Merck, *1780
Cannula tampon, for laryngeal stenosis, (36) 2237
Cantharides poisoning. acute, (8) 1282
Canteen, Army, facts about, (99) 1733—ab
Canula, Crile, modification of, *1233, (48) 1108, (105) 2099
Capsulotomy, complete peripheral, (137) 1037
Cardiospasm, severe, (49) 1380
Car sickness, (13) 865—ab
Carbohydrate reactions of streptococci, constancy of, (6) 870
Carbon dioxid snow in nevi and other lesions of skin, (75) 356—ab, (106) 1037—ab
  monoxid hemoglobin of blood of miner killed in explosion in bituminous coal mine, examination for, (64) 1109
  monoxid in blood, determination of, (89) 176
Carbuncle, treatment of, (83) 1825—ab
Carcinoma: See also Cancer.
  antiferments, treatment of, (52) 797—ab
  excision of stomach for, (132) 1553
  in high life, (95) 1186
  in mice, (18) 2006
  nature of, and early diagnosis of gastric carcinoma, (8) 2000—ab, (71) 2189—ab
  negative results of injections of placenta blood in, (51) 797
  of appendix, (38) 1730
  of appendix, primary, (45) 167, (156) 171, (108) 260—ab, (56) 355—ab, (31, 32) 439, (34) 707, (22) 795—ab, (37) 1033, (5) 1105, (37) 1730
  of appendix, primary, and sarcoma, (108) 260—ab
  of appendix, primary, and endothelioma, (32) 439
  of appendix, primary colloidal, (45) 167
  of appendix, primary, in child, (16) 2234
  of appendix with metastases to ileocolic glands, (109) 260—ab
  of ascending colon, (15) 628
  of bladder, radical treatment of, (33) 1372—ab
  of both breasts, (46) 1468—ab
  of cervix uteri, radical abdominal operation for, (6) 1551—ab
  of esophagus, resection and plastic operations for, (53) 1556
  of Fallopian tube, primary, (26) 952
  of gland of Bartholin, (103) 1473-ab
  of jejunum, (8) 794
  of jejunum and ileum, primary, (49) 797
  of larynx, laryngectomy for, *1072
  of liver, primary, (126) 1474
  of nasopharynx and sphenoid region, radium in, (89) 442
  of nipple, (119) 1914, (72) 2193
  of rectum, comparative results of operative procedures, (94) 1110
  of rectum, excision of, by combined method, (155) 360—ab, (39) 791—ab
  of sigmoid, early diagnosis of, (4) 944
  of stomach: See Gastric Cancer.
  ovarian, histogenesis and diagnosis of, (58) 538
  Paget's eczema of nipple with, (40) 1550
  primary, origin of, (69) 798—ab
  serotherapy of, *1488
  uterine and fibroids, (2) 1461—ab
  uterine, behavior of ureters after abdominal operations for, (112) 877—ab
  uterine, early diagnosis of, (68) 1642
  uterine, inoperable, acetone in, (54) 947
  uterine, metastases of, in central nervous system and organs of special sense, (133) 2198—ab
  uterine, operation for recurrence, (75) 955
  uterine, primary, (30) 2001
Carcinomata, how frequently do gastric ulcers become? (104) 260-ab, (136) 353—ab
Cardiac, arrhythmia, (51) 708—ab
  murmurs, unusual, (14) 530
Cardiohepatic angle, (53) 168—ab
Cardiopathics, functional, and false heart disease, (56) 1738—ab
Cardiospasm, *549
  as cause of habitual vomiting of infants, (124) 1043—ab
  chronic, treatment of, (49) 1909—ab
  functional stenosis of esophagus at cordia, (61) 168
  severe, (49) 1380
Cardiovascular affections and venesection, *717
  and eye diseases, *212
  changes in renal diseases, (130) 793
  conditions, drug treatment of, *1745
  conditions, principles of treatment in, (76) 1036—ab
  disease, ear symptoms of, *1594
  system in prognosis, *1692
Caries, dental, as cause of disease in children, (145) 1282
  dental, cause and prevention, (3) 1282
  of hyoid bone, *1425
Carotid gland, tumor of, (126) 793
  glands, anatomy and pathology of, (56) 708
Carroll, James, life and work of, (54) 867
Carrot soup in digestive disturbances in infants, (73) 955—ab
Cartilage cells, structure of, and morphology of cartilage glycogin, (92) 2098
Cartridge method, collapsible, for subcutaneous injections, (93) 1740
Casein, solubility of, in alkaline solutions, influence of temperature on, (42) 1731
Castor oil in acute appendicitis, (104) 448—ab
Castration, influences of, on pelvic development in lambs, (60) 538
  influence of, on respiratory metabolism, (98) 2194
Casts, walking, technic of, (126) 1117
Catalase in tissues and its variations in disease, (25) 2089—ab
Cataphoresis, (32) 1462
Cataphoric sterilization treatment of cancer, (168) 950
Cataract, complicated, rare form of, (130) 1188
  extraction, (140) 170, (39) 445—ab, (105) 1733
  extraction, after-treatment of, (135) 442
  extraction, opacification of cornea following, *296
  family, genealogical tree of, (81) 2009—ab
  immature, treatment of, (7) 951, (33) 2191—ab
  incipient, and age, association of, with normal and pathologic blood pressure, *400
  lamellar, rachitic erosions of permanent teeth with, *1130
  operation, secondary, glaucoma following, (121) 1905
  senile, desirability of ophthalmoscopic examination while view of fundus is still obtainable. (91) 2004—ab
  senile, theories of origin of, (132) 1117
  wire lid-elevator for prevention of loss of vitreous humor in extraction of, (180) 171
Catarrh, atrophic middle-ear, *364
  Eustachian, with hyperinflation, (89) 1552
  nasopharyngeal, in children, treatment of, (127) 1043
  of ear, and adenoids, (99) 2005
  respiratory, Ems treatment of, (31) 444
  respiratory, treatment of diseases due to, (23) 73
Catgut, buried, and intercutaneous suture in plastic operations on perineum, (48) 531
  iodized and chromicized, (115) 800
  prepared with collargolum and argyrol, (171) 950
Cathartics, and purgation, (40) 1185
Cathay, (20) 167
Catheter, suprapubic, relief of retention of urine by, (26) 1462, (114) 1733
Catheterization, retrograde, plea for prompt use of, in surgical treatment of impassable stricture of urethra, (19) 167—ab, (69) 258-ab
  ureter and cystoscopy in children, (75) 1912—ab
  ureter, in diagnosis and treatment, (57) 1642—ab
Catgut, silverized, argyrol method, (41) 2089
Cats as plague preventers, (8) 1820—ab
  epidemic among, micro-organism causing, (61) 1469

- Cats, saliva of, diastase in, (59) 350—ab
  - vasodilator fibers to submaxillary gland in cervical sympathetic of, (22) 1033
- Cattle, ocular tuberculin reaction in, (22) 1184
  - plague, virus of, filtration experiments with, (71) 532
  - protection of, against tuberculosis, (121) 359—ab, (94) 869
  - rudimentary segments of lung in, (99) 1913
  - transmission of tuberculosis from man to, (48) 2095
  - tubercle bacilli and tuberculosis in, (56) 2096—ab
  - vaccination of, against tuberculosis, (94) 869, (47) 1738—ab
- Cauterization, steam, of uterus, (58) 954, (87) 1826—ab
- Cautery, actual, modification of technic for intestinal anastomosis with, (58) 355
  - automatic actual, (99) 1288
- Cavernous sinus, septic thrombosis of, (162) 1189
- Cavities, accessory, and nose, throat and eye affections of, (77) 1471—ab
- Cecum, migration of, obstructing ascending colon, (8) 353—ab
  - movable, as cause of disturbances ascribed to chronic appendicitis, (74) 1739
  - movable, fixation of, to relieve chronic appendicitis, (109) 1383—ab
  - perforation of, following delivery, (107) 1377
- Cell division, active, non relationship of to prognosis in malignant disease, *910
  - eosinophilic, occurring in hematopoietic organs in diphtheria and tuberculosis, (104) 869
  - proliferation reactive in white rat, and genesis of transplantable tumors, (27) 2089
- Cells air, accessory, in septum nasi, (28) 1467
  - cartilage, structure of, and morphology of cartilage glycogen, (92) 2098
  - differential counts of, in lymph of dog, and bearing on hematology, (158) 870
  - gastric, significance of wash water examinations for, in diagnosis of atrophic gastritis, (15) 348
  - liver, light colored, (45) 713
  - interstitial, in testicles, (95) 1913
  - nerve, Edinger's theory of using up of (123) 1914
  - peculiar inclusions in, in acute myeloid macrolymphocyte leukemia, (117) 1896
  - peculiar, in tonsil of dog, probable significance of, (98) 1913
  - plasma, hyalin corpuscles in, (123) 634
  - vitality of, influence of lightning electric treatment on, (115) 1474—ab
- Cement dermatosis, (41) 953—ab
- Centers, cerebral for taste and smell, and uncinate group of fits, *879
- Cephalocele, three cases of, in one family, (8) 1461
- Cerebellar ataxia, hereditary, (43) 81
  - neurasthenia, (118) 2100
  - symptom in hydrocephalus *1933
- Cerebello olivary fibers, course of, in tuberculosis of spinal cord and medulla, (43) 445
- Cerebellum and cerebello pontine angle, symptomatology of tumor in, (81) 1825—ab
  - and cerebrum, multiple hernias of, due to intracranial pressure, (111) 869
  - tumors of, diagnosis, surgical treatment and symptomatology, (85) 1649—ab
  - meningeal tumor compressing, (137) 170
  - pathology of tumors in, (43) 953—ab
- Cerebral decompression, principle of, (42) 1551—ab
- Cerebration deficient in chronic purulent otitis media, cure by mastoid operation (144) 950
- Cerebrospinal fluid, in anterior poliomyelitis, (153) 870
  - fluid in typhoid, typhoid bacilli in, (67) 714
  - fluid cytologic examination of, (72) [illegible]—ab
- Cerebrum and cerebellum, multiple hernias of, due to intracranial pressure, (111) 869
- Cervical glands, softened tuberculosis of, possibility of avoiding scar formation (1) 2000—ab
  - mucosa, lymph node in, (113) 1651
  - sympathetic of cat, vasodilator fibers to submaxillary gland in, (22) 1033
- Cervix uteri, acute puerperal inflammation of, with secondary rigidity of external os, (37) 354—ab
  - advantages of water bag dilatation of, over version, in placenta previa (122) 1827—ab
  - atypical pavement epithelium in, (52) 630
  - cancer of, immediate mortality of abdominal hysterectomy for, (14) 2190
  - carcinoma of, radical abdominal operation for, (6) 1554—ab
  - diseases and injuries of, (41) 1279
  - elongation of, complicating delivery, (16) 2275—ab
  - inflammations in and around, in pregnancy, treatment, (95) 1195—ab
  - malignant adenoma of, vaginal portion of, (135) 2198
  - posterior longitudinal incision of, (118) 1742—ab
  - removal of laminaria tents from, (146) 360
  - vaginal ablation of cancer of, results of, (110) 1383—ab
- Cesarean section, (4) 78, (32) 167—ab, (185) 171, (82) 533, (33) 1816, (62) 2091
  - abdominal, *734
  - abdominal cervical, *732
  - abdominal, indications for, (46) 167—ab
  - and spinal anesthesia, (98) 176—ab
  - conservative, hernia of gravid uterus after, (144) 360
  - extraperitoneal, (143) 360, (124) 717, (144) 1043, (108) 2099
  - extraperitoneal, and subcutaneous symphyseotomy, (10) 1377
  - extraperitoneal limitations of indications for, (134) 2198
  - four successive on one patient, (49) 2002
  - in dystocia, (26) 1033—ab
  - in eclampsia, recovery of mother and child, (61) 947
  - indications and technic, (6) 438—ab
  - indications for, (53) 532—ab, (43) 623—ab, (45) 2090—ab
  - influence of asepsis and infection on technic of delivery by, (61) 1648—ab
  - Porro, (87) 1110
  - rupture of uterus through cicatrix, (43) 75—ab
  - superiority of primary over secondary, (32) 1816—ab
  - suprasymphyseal, (124) 717, (45) 953—ab
  - suprasymphyseal, indication for, (124) 1561
  - to reduce danger of natural straining with placenta prævia, (112) 1651—ab
  - transperitoneal by cervico mesouterine longitudinal incision, (60) 1648—ab
  - vaginal, and induction of premature labor, indications and contraindications, (30) 1278
  - vaginal, in eclampsia, (69) 624
  - vaginal, in general practice, (65) 264—ab, (94) 1740
  - vs sections of pelvis, (37) 707—ab
  - vs other methods of delivery in contracted pelvis, (9) 1377
- Cestode larva, proliferating, in man in Florida, (98) 1110—ab
- Chaillé, Stanford Emerson, (83) 792
- Chair, adjustable canvas, as aid to Murphy treatment of diffuse suppurative peritonitis, *1133
- Chalazion, (37) 2004
- Chancre at point of experimental inoculation, (82) 530
  - soft, in rabbits' cornea, inoculability of bacillus of, (113) 1914
- Charcot joint, (86) 625
- Charity epoch in Illinois, public, (84) 1186
- Cheek and lip, mixed tumors of, (43) 629
  - cancer of, involving jaw, method of operation in, (31) 1730—ab
- Cheeks and commissures, leukoplasia of, semiologic importance of, ([illegible]) 445—ab
- Cheilitis exfoliative, (99) 1110, *1684
- Chemical constitution, physicochemical properties and pharmacodynamic action (85) 799
  - regulation of function, (140) 625
- Chemistry, biologic, problems of, (23) 865
- Chemistry of anaphylaxis, (56) 2003—ab
  - of liver in chloroform necrosis, (41) 1731
  - of stomach, changes in, after gastroenterostomy, (60) 1910—ab
  - physics and biology, what subjects can be practically included in year's work in, (19) 707
- Chemists, manufacturing, are physicians justified in taking pay from, for scientific tests of pharmaceutical preparations? (65) 1648—ab, (105) 2011—ab
- Cherry laurel water, and camphor water in collyria, (143) 170
- Chest See also Thorax
  - and abdomen, orthodiagraphic examination of organs in, (135) 1743
  - irrigation of, in empyema, blood pressure lowering reflexes from, (26) 1816—ab
  - troubles, treatment of, by outdoor sleeping, (25) 354—ab
  - wall and lung, operative mobilization of, in treatment of unilateral pulmonary tuberculosis, (99) 1116
  - x-ray diagnosis of diseases of, (5) 2185
- Chicory, research on, (108) 1913
- Chicken cholera virus, ultrafiltration of, (79) 799
  - meat, hydrolysis of, (34) 1278
- Child See also Children
  - after age of 2, (41) 1908—ab
  - aged 4 years, rare pelvic tumor in, (23) 952
  - ailing poor law, future of, (10) 1735
  - and mother, recovery of, after Cesarean section in eclampsia, (61) 947
  - conditions that require removal of from breast, (34) 167—ab, (74) 441—ab
  - diphtheria and impetigo contagiosa in, (5) 870
  - double suppurative parotitis complicating typhoid in, *2216
  - eczematous infection of, from vaccinated brother, (85) 1740—ab
  - healthy, at term, extrauterine pregnancy with, (29) 712—ab
  - influence of breast nursing on development of, (151) 86
  - living, ectopic heart in, (117) 1742
  - new born, weight of, in relation to weight of placenta, (114) 78—ab
  - physiology of growth and development of, (81) 1912
  - organism of, response of, to foreign albumin, and its ability to produce antibodies, (80) 715
  - removal of grain of corn from trachea of, (107) 1552
  - sick, (67) 1904—ab
  - transmission of infection from puerpera to, (95) 632—ab
  - typhoid, complicated by aphasia in, (39) 1185—ab
  - typhoid in, empyema and gangrene of lung complicating, (61) 257
  - with adenoids and impaired hearing, responsibility of physician for future of, (42) 1374—ab
  - xanthoma planum, generalized in, (14) 1901
- Childbearing age, ventrosuspension of uterus during, (41) 707—ab
- Childbed infections, prevention of, (79) 533
- Childbirth, acute peritonitis before and during, (121) 717
  - advantages of institutional care during, (95) 2099—ab
  - allowing women to get up early after, (91) 1195—ab
  - and pregnancy, and axial torsion of large intestine, (116) 1117
  - and pregnancy with congenital mitral stenosis, (30) 712—ab
  - Cesarean section versus sections of pelvis in, (37) 707—ab
  - hemorrhage during, (158) 86
  - postanesthetic acetonuria with delayed excretion of acetone after, (13) 2005
  - retroversion after, prevention of, (74) 2189—ab
  - spontaneous, with narrow pelvis, (65) 1113
  - suicide during, (82) 799
  - with contracted pelvis, (64) [illegible]—ab
  - with double uterus, (187) 87—ab
- Childhood and infancy, care of mouth during, (12) 2186—ab
  - and infancy, diet in, (19) 712
  - and infancy, gastrointestinal diseases of, (40) 531, (73) 948
  - and infancy, tuberculosis in, (71) 441
  - arrested local development from burns in, (50) 355
  - breast tumors in, (31) [illegible]—ab
- Childhood, common skin diseases of, diagnosis of, (62) 532
  - danger from infection during and overcoming of tendency to tuberculosis (9) 2185—ab
  - diagnostic importance of vomiting in, (66) 868
  - diarrhea from gastric achylia in, (99) 2099—ab
  - hydrotherapy in, (63) 257—ab
  - injurious habits and practices of, (24) 73
  - nephritis, acute in, unusual type of, (41) 867—ab
  - obscure fever in, (3) 347—ab, (86) 869—ab
  - paralysis, general, in *1946
  - pericarditis in, fatal suppurative, (30) 262
  - pneumonias in, (63) 168, (26) 872—ab
  - problems of, (91) 710—ab
  - rheumatic cycle in, (54) 440
  - symptomatology of disease in, (93) 2189—ab
  - syphilis in, (8) 438—ab
  - unusual sequelæ of convulsions in, (4) 1906
- Children, abuse of alcohol in diseases of, 622—ab
  - amblyopia in, (12) 627—ab
  - and adults, disease in, defensive arrangements of body as illustrated by, (43) 1284—ab
  - and atrophic infants, plan of dealing with, (40) 867—ab
  - and infants, chronic constipation in, (47) 1817
  - and infants, diabetes in, (87) 1376—ab
  - and infants, pneumonia in, ambulatory treatment of, *286
  - and infants, summer diarrheas of, (137, 138) 534
  - anemia in young, (78) 1912—ab
  - anemia in, treatment of, (90) 1382
  - anomalous pyrexia in, (1) 1282—ab
  - appendicitis, acute, in, (14) 1372—ab
  - arthritis deformans in, (60) 709
  - asthma, bronchial, in, (60) 874—ab
  - asthma in, etiology of, (89) 715—ab
  - backward, hypertrophied faucial tonsils and adenoids an etiologic factor in, (87) 869
  - between 3 and 6, blood findings in periodical acetonemia in, (112) 1289—ab
  - brain tumors in, (83) 82—ab
  - bullous eruptions in, (22) 1820
  - cirrhosis of liver in, (101) 266
  - colored, of Jamaica, rickets and Mongolian spots in, (42) 867—ab
  - comparative dosage in, (92) 2189—ab
  - crippled and deformed, New York State Hospital for, (119) 696
  - cruelty to, and alcoholism, (20) 261
  - cutaneous tuberculin reaction in, (91) 540—ab, (103) 541, (62) 791
  - cystoscopy and catheterization of ureters in, (75) 1912—ab
  - dental caries as cause of disease in, (145) 1252
  - diet and hygiene of, (91) 2189—ab
  - disturbances in speech in, pathology and symptoms of, (75) 798—ab
  - effect of altitude on heart lesions in, (63) 948
  - empyema in, (19) 172—ab
  - empyema in, differential blood count in diagnosis of, (109) 949
  - epileptic and feeble minded, (62) 1465—ab
  - fatty acid intoxication in, (15) 1735
  - fatal hemoptysis in, (45) 867
  - feeble minded types of, and their significance, (39) 2007—ab
  - female, vaccine treatment of gonorrhea in, (78) 169—ab, *1298, *1301
  - fevers of intestinal origin in, (146) [illegible]
  - fracture of radius in, (126) 878
  - friendless, Budapest Asylum for, (87) 82
  - functional kidney tests in, (44) 2191—ab
  - gastrointestinal disorders among, (40) 531, (73) 948
  - gonorrhea in, (86) 1723
  - growth of, thymus treatment of disturbances in, (129) 440—ab
  - health resorts and climates for, (25) 444
  - heart disease in, prognosis of, (38) 2066
  - hemorrhoids in, (47) 2192
  - hernia large, in, (42) 1997
  - herniotomy in, ([illegible]) [illegible]
  - hourglass stomach in, (66) 1472—ab

Children, hydronephrosis in, and its treatment, (110) 1733—ab
  hygiene of eye in, (44) 623—ab
  hyperpyrexia in, *1920
  improper seating of, in school, spinal curvature arising from, (115) 170
  lungs in, acute affections of, (23) 536
  lymphatic apparatus in, (86) 82
  malaria in, *916
  megacolon in, (85) 265—ab
  melancholia in, (84) 1733—ab
  mental and physical development of, relation of adenoids and tonsils to, (69) 441
  nasopharyngeal catarrh in, treatment of, (127) 1043
  nervousness in, and diet, (104) 1560—ab
  neuroses in, reflex, (50) 1279
  normal, arterial pressure in, (37) 629
  nutrition of, practical application of food values in, (79) 1186—ab
  of consumptives, *1413
  of Queensland, plumbic ocular neuritis in, (11) 2093
  of school age, incidence of pulmonary tuberculosis in, (30) 1112—ab
  older, periodic acetonemia in, (100) 716—ab
  papilloma of larynx in, (92) 2092
  paradysentery and similar affections in, (107) 1116
  persistent loss of appetite in, curative effect of rest, *1917
  perinephritic abscess in, (129) 442
  physical defects of, causing subnormal and mentally deficient pupils, (76) 625—ab
  physical deterioration in, (29) 1038
  pneumococcal peritonitis in, (36) 1467
  pneumonia in, (46) 623, (12) 951
  prephysical signs of tuberculosis in, *1752
  primary tumors of adrenal gland in, (35) 439
  psychoses in, (105) 84—ab
  respiration in, (29) 173
  retention of urine in typhoid in, (37) 712
  rheumatism in, (170) 171, (52) 708—ab, (41) 1185, (88) 1376
  rheumatism, nodular, in, (134) 178—ab
  ringworm in, (80) 2194
  school, (15) 1815—ab
  school, effects of faulty eye, ear, nose and throat conditions on mental development of, (88) 1466
  School, Inspection of: See Medical Inspection of Schools.
  school, orthodiagraphic study of heart in, (97) 1116
  septic arteritis and aneurism in, (82) 82—ab
  small, cancer of liver or kidney in, (97) 1472
  small, treatment of hydrocephalus in, (58) 1909—ab
  summer diarrhea in, (135) 1282
  summer diarrhea in treatment of, (117) 1042
  tendency to spasm in, and lime metabolism, (57) 874—ab
  tuberculin reactions in, comparative diagnostic importance of, (111) 1741—ab
  tuberculosis in, and tuberculous cows, (22) 73
  tuberculosis in, pathology of, (56) 76—ab
  tuberculosis, latent endothoracal glandular in, diagnosis and specific treatment of, (106) 1473—ab
  tuberculous, (40) 1468
  tuberculous, infrequency of hemoptysis in, 915—ab
  tumors in bladder in, (76) 1912—ab
  undescribed affection of certain bones in, (116) 1474—ab
  urinary tuberculosis in, diagnosis of, (39) 1821—ab
  vulvovaginitis in, (96) 77
  vulvovaginitis, gonorrheal, treatment of, (78) 169—ab, *1298, *1301
  weak nervous, arsenic for, (41) 81
  with spondylitis, x-ray diagnosis of tuberculous pulmonary glands in, (69) 2097
  young, pyopericardium in, (11) 951—ab
  young, rheumatism in, and fatal suppurative pericarditis, (30) 262
Chimney-sweep's cancer, (22) 1038
China, hygiene in, (33) 796—ab
  medical practice in Canton, (65) 1109
  opium habit in, (94) 259
Chinn, Jack P., vs. Foster-Milburn Co., history of case of, (44) 1185-ab
Chinoline carbonates, action of, and their derivatives on elimination of uric acid, (67) 446
Chlorids, excess of, in lymph, (67) 350—ab
Chloroform, action of, administered by different channels, (13) 711—ab
  and ether anesthesia, (14) 789, (105) 1110
  and ether, value of warming vapor of, (67) 624
  and scopolamin-morphin anesthesia, (13) 1377—ab, (45) 1468—ab
  anesthesia, (131) 793, *1578
  anesthesia, apparatus for, (14) 951
  anesthesia, fatal toxemia after, (7) 1282
  anesthesia, influence of covering mask with towel, (183) 87, (146) 1043—ab
  narcosis, degeneration of liver following, (35, 81) 1643, (41) 1731
  poisoning, (76) 1642
Chloroma and acute lymphatic leukemia, (31) 262—ab
Chlorosis, secondary and pernicious anemia (93) 352
  size of heart in, (51) 1286
Cholecystectomy, (98) 352, (111) 1819
Cholecystenterostomy in form of Y, (17) 1554
Cholecystitis, (23) 261—ab, (84) 793
  acute, early operation in, (114) 84-ab
  acute, in second week of typhoid, (37) 1640
  and appendicitis, hematogenic infection in, (88) 2194
  and prevention of gallstones, (9) 2088
  experimental, (45) 174
  regurgitation a symptom of, (22) 1640
  remote symptoms and effects of, (49) 791
  typhoid, and its treatment, (47) 263—ab
Cholecystostomy with recovery of pure culture of typhoid bacilli from gall bladder, (37) 1640
Cholelithiasis and diabetes mellitus, (116) 634
  and surgery of pancreas, (130) 170
  pathogenesis of, (50) 713—ab
  soap concretions in, *674
Cholesterin crystals in pleural effusion, (121) 800
  tetanus treated with, (137) 1734
Cholera, (67) 532
  and commerce, (3) 2185
  cause of frequent reappearance of, in Philippines, (66) 532—ab
  chicken, virus, ultrafiltration of (79) 799
  infantum, (14) 73—ab
  saline transfusion in, value of taking specific gravity of blood during, (36) 2191—ab
  winter, *1499
Cholesteatoma of umbilicus, (48) 797
Cholesterin in pernicious anemia, *2154
Chondrectomy for emphysema from rigidity of thorax, (51) 797
Chondrodystrophia fœtalis, (58) 532
Chondroendothelioma of head, (125) 1914
Chondroma and osteochondroma, (71) 1039
  and osteoma in faucial tonsils, (142) 950
Chondromata, osteitis, bone cysts and similar affections, (80) 632
Chondrotomy in apical tuberculosis, (73) 1911—ab
  of first rib in incipient apical tuberculosis, (106) 449—ab
Chorea, (10) 1283—ab
  chronic, loss of earning power from, (78) 1381
  during pregnancy, (39) 263—ab
  gravis, (126) 260
  Huntington's, (10) 1466
  magnesium sulphate intraspinal injections in, (53) 2192—ab
  mental state in, (72) 533—ab
  nasopharyngeal origin of, (45) 2192—ab
  rheumatism as after-affection of, (82) 715—ab
  treatment of, (33) 1467, (35) 2006
Chorioepithelioma, (22) 952
  in a man, (88) 876—ab
  incipient, with metastasis in vagina, (113) 359
  malignum, (58) 2091
  of ovary, primary, (78) 82
  or syncytioma of placenta, (29) 167—ab
  of uterus, (45) 531
Chorioid: See also Eye
  angioma of, (116) 1905
  probable congenital circumscribed defect in, with anomalous pigment and vascular arrangement, (120) 352
Chorioid, sarcoma of, (124) 1188—ab
Chromium sulphate, in medicine, (72) 1642
Chromocystoscopy, value of, in diagnosis of kidney disease, (9) 2005—ab
Churches, halls and public assembly rooms, sanitary construction and furnishings of, (161) 1188
Chyluria, (87) 540—ab
Cicatrices, filtering, by two methods, (30) 1283
Cicutine, (97) 1110
Ciliary body and iris, diseases of, (40) 946
Cincinnati, certified milk in, (86) 351
Circulation, advantages of general anesthesia with part of, cut off, (94) 1826—ab
  disturbances of, in diphtheria, *2121
  physiology of, (37) 440
  portal, disturbances in, from congestion of bile, (135) 267
  recent studies on, *473
Circulatory disturbances and venesection, (101) 358—ab
  disturbances, examination of blood in peripheral vascular provinces with, (134) 1117—ab
  system, treatment of diseases of, with Zander methods, (15) 1372—ab
Cirrhosis-of-liver, (125) 2197
  and cancer, with neoplastic infection of nerves and arteries, (128) 1914
  anemia of, simulating pernicious type, *1143
  collateral circulation in, anastomosis between portal vein and vena cava in, (118) 450
  development of, (66) 446—ab
  epithelioma of liver and, (120) 1384—ab
  experimentally induced, (71) 446
  following lymphatic leukemia, (68) 539—ab
  hemochromatosis with, (115) 1037
  in children, (101) 266
  intralobular, produced by protozoal parasite of kala-azar, (36) 1038—ab
  malarial, (10) 794
  origin of, (99) 1559
Cities, small, sanitation of, (81) 1552
Citizen, physician as, (41) 946
Citizens, duty of state to, (87) 1904
City, duty of to municipal plague spots, (65) 76
Civil service commission, what it is accomplishing, (75) 169
Civilization, quality or quantity in progress of? (69) 1738
Classification of diseases, apoplexy in, (7) 1371
  of diseases, international, and morbidity returns, (12) 2089—ab
  of diseases, international, its advantages, defects and deficiencies, (2) 1371—ab
Claudication, intermittent, (18) 536
  intermittent, and obliterative arteritis, (5) 710
Clavicle, fracture, unusual, of, (11) 794
  fractured, new dressing for, (104) 1110
  fractured, treatment of, (7) 2233
  fractured, wire suture of, (134) 717
Cleft-palate (141) 78
  and harelip, (149) 1734
  and harelip operations, technic of, (140) 1188
  and hare-lip, repair of, (135) 1906
Climate and nose, (30) 444
  change of, and treatment in sanatoria near at hand, comparative value of, in pulmonary tuberculosis, (3) 2088—ab
  change of, instructions which should be given tuberculous patient making, (48) 1374
  is it changing? (35) 2006—ab
  Colorado, etiologically. and therapeutically considered, (101) 1552
  Colorado, how does it influence tuberculosis? (111) 1644
  in tuberculosis, (76) 1186
  of north and northwest in etiologic and therapeutic relation to diseases of nose, throat and ear, (102) 1552
  tropical, effects of on white race, (101) 1733
Climates and health resorts for children, (25) 444
  for aged, (24) 444
Climatotherapy of tuberculosis; physical rather than bacillary grounds, (167) 950
Clinician, pathologist and layman, correlation of, *191
Clinics, dental, (145) 1282
  of Germany, methods of diagnosis in, (62) 168
Clitoris, hypertrophy of, (50) 1113
Clonus, foot, apparatus for automatic registration of, (126) 1914
Clothes worn by consumptives, infectiousness of, (118) 800
Club foot, splint for, after operation, (69) 76
Coal mine, bituminous, examination for carbon monoxid hemoglobin of blood of miner killed in explosion in, (64) 1109
Coal tar in chronic eczema, *497
Cocain and opium, insanity caused by acute and chronic intoxications with, *97
  as local anesthetic in radical operation for inguinal hernia, (95) 1552
  in surgery, (51) 791
  or stovain local anesthesia, by Tuffier's method, operations performed under, (6) 1820
Coccidioidal granuloma, relation of, to systemic blastomycosis, (17) 944
Coffee and tea poisoning, (46) 349
Coffee, caffein-free, (87) 2009
Cognition and sensism, (59) 1552—ab
Cold and mechanical exercise, influence of on sugar excretion in phloridzin glycosuria, (71) 350—ab
  apparatus for application of in mastoiditis, (136) 85
  common, pathology and treatment, (12) 2235
Colectomy for cancer of large intestines, (47) 629—ab
Colic, (122) 1188—ab
  abdominal, (114) 2100—ab
  nephritic, synonyms; renal colic, kidney colic, (94) 2004
  renal and hepatic, (10) 2233
Colitis, anatomic causes and surgical treatment, (95) 710
  chronic, (21) 2190
  in animals, study of bile in experimental production of, (40) 256
  membranous, effective treatment of, (18) 1032
  mucous, and relation to appendicitis and pericolitis, (14) 535—ab
  ulcerative, and asylum dysentery, (25) 1377
  ulcerative, chronic, (49) 264—ab
Collapse, after injection of diphtheria antitoxin, *38, (19) 255—ab
  shock and syncope, (60) 1185
Collargol and argyrol, catgut prepared with, (171) 950
  in puerperal infection, (48) 81
College of Medicine of University of Southern California, inauguration of annual session, (114) 1819
Colleges and universities as factors in tuberculosis educational campaign, (92) 1904
  dental, pathology in, *30
  Medical: See Medical College
Colles' law and Profeta's law in light of modern serum research, (118) 1290
Collodion dressings, intranasal, *1152
Collyria, camphor water and cherry-laurel water in, (143) 170
Colon aërogenes group of bacteria, (112) 869
  and rectum, fermentative power of polypus secretion in extensive polyposis of, (97) 1041
  and stomach, pathology of fistula between, (97) 448—ab
  ascending, carcinoma of, (15) 628
  ascending, migration of cecum producing obstruction of, (8) 353—ab
  Bacillus: See Bacillus Coli Communis
  cancer of, (4) 1553
  congenital idiopathic dilatation of, (133) 352—ab
  descending, invagination of, surgery of, (181) 87
  mucomembranous non-inflammatory affections of, (73) 82—ab
Coloproctitis, (120) 78
Color conversion, solution of Steven's new phenomenon of, (126) 1905
  permanent, of muscles, vessels, nerves and organs, preservation of anatomic dissections with, by new method, *642
Colorado and asthma and hay-fever, (116) 1644
  and cardiac affections, (118) 1644
  and eastern tuberculosis, (22) 439, (17) 622
  and non-tuberculous pulmonary disorders, (117) 1644
  climate, etiologically and therapeutically considered, (101) 1552
  climate, how does it influence tuberculosis? (111) 1644
  consumptives born in, (114) 1644

Colorado, nervous disorders in, (119) 1644
  physicians in, for tuberculosis, (115) 1644
  what consumptives should come to, (112) 1644
  what consumptives should not come to? (113) 1644
Colostomy with attempt at sphincteric control, (19) 2093—ab
Colotomy, Brewis' appliance for use after, (10) 1820—ab
Colpohysterectomy, total, by perineal-abdominal route, (45) 263
Coma, diabetic and diabetic acidosis, treatment of, (82) 265—ab
Commerce and cholera, (3) 2185
  effects of bituminous coal smoke on, (8) 1815—ab
Compensation for industrial accidents and traumatic inflammation of joints, (69) 1380
Complement and amboceptors in typhoid sera, (44) 1464
Complement-binding antibodies in tuberculosis and their connection with healing processes, (123) 2197
  antibodies in tuberculous serum in connection with tuberculin, (58) 1193
  in experimental trypanosomiasis, (176) 87
  in relapsing fever, (79) 539
  in scarlet fever, (105) 1741
  in serum test in inherited syphilis, scarlet fever and other infectious diseases, (66) 1911—ab
  significance of, for theory of action of tuberculin, (107) 1383
  substances in urine in syphilis, (91) 83
  test in leprosy, (171) 87
  test in meningitis, (93) 2010
  test in syphilis, (52) 2006—ab
  trypanosome infection and, (104) 1041
Complement deviation in scarlet fever, (87) 1115
  deviation in syphilis and parasyphilitic affections, (153) 360
  deviation test in typhoid, (62) 1380
  deviation with tubercle bacilli derivatives as antigen in tuberculosis and infectious diseases, (106) 1383
  fixation, (50) 1737
  fixation in malignant disease, (23) 1184
Compressed-air illness, (35) 262—ab, (15) 354.
  illness and diving, (14) 354
  illness, influence of fatness on susceptbility to, (25) 2190—ab
Compression, behavior of muscle after, (63) 350—ab
Conception and menstruation, (79) 1470
  menstruation and duration of pregnancy, computation of, (108) 1041
Concrements forming on threads after gallstone operations, (98) 358
  in lungs and treatment with silicic acid, (63) 874
  in urine, pathology of, (53) 954
Condurango bark and kawa root, (79) 1194
Condylomata, pointed, conglomeration of, (110) 1473
Configuration, meteorology, and general health of midland counties of England, (35) 444
Confinement cases, difficult complicated, (58) 2188
Confinements terminated variously, (4) 1820
Conjunctiva, Conjunctivitis: See also Eye
  diseases of, (15) 73
Conjunctival Reaction: See Tuberculin
Conjunctivitis, acute catarrhal, (112) 1187
  chronic, (75) 447—ab
  Samoan, investigation of, (34) 2187—ab
Connecticut, tuberculosis in, (12) 622—ab
Connective tissue fibers in mucosa of uterus, (54) 1646
Consanguinity a cause of congenital nystagmus, (126) 1282
  and ocular disease, (111) 1187—ab
Consciousness, transitory disturbances of, in epileptics, (56) 1552
Constipation: See also Obstipation
Constipation, (25) 872, (64) 1552, (12) 1644
  chronic, in infants and children, (47) 1817
  chronic, treatment of, (84) 1376, (110) 1651—ab
  habitual, mechanical treatment of, (116) 170
  habitual, sawdust bread in, (85) 539—ab
Constipation, physical treatment of, (93) 534
  treatment, (42) 81
Consumption: See Tuberculosis
  of oxygen, value of, as test for water, (111) 2011
Consumptives, atrophy and hyperplasia in liver in, (101) 1472
  care of, (90) 1904
  children of, *1413
  Colorado-born, (114) 1644
  convalescent, choice of occupation for, (147) 950—ab
  curable subacute encephalitis in, (66) 2008
  do they sleep on side of lesion or not? (40) 1191—ab
  hyperalimentation of, dangers of, (25) 1554—ab
  infectiousness of clothes worn by, (118) 800
  instructions which should be given to, on changing climate, (48) 1374
  intravenous treatment of, with cinnamic acid, (67) 1557
  marriage and intermarriage of, (120) 1644
  negro, what shall we do with? (121) 793
  poor, plea for more sanatoria for, (7) 348
  proper advice to, (82) 948—ab
  respiratory metabolism of, during night sweats, (111) 1826
  solar plexus in, pathologic anatomy of, (49) 538
  who should come to Colorado, (112) 1644
  who should not come to Colorado? (113) 1644
Contacts, typhoid due to, (6) 2088—ab
Continence, sexual, compatibility with health, (84) 259—ab
Contracture, ischemic of muscles, and plaster cast, (100) 2195—ab
Conus medullaris affections of, (55) 1192—ab
Convalescence from diphtheria, cervical and submaxillary adenitis in, (34) 2006
  treatment of, after abdominal operations, (56) 532
Convulsions and rigidity in apoplectiform hemiplegia, and hemorrhage into ventricles, *216
  in childhood, unusual sequelæ of, (4) 1906
  lime in origin and treatment of, (128) 1743—ab
  resulting from complete vaginal atresia, (69) 1465
  treatment of, (100) 1560—ab
Cooking, stimulants used in, (65) 1185—ab
Copper-hydroxylamin test for grape sugar, (111) 800
Cord, umbilical, ligation of, *917
Cords, vocal, laryngeal crises and paresis of abductors of, *815
Corn oil in pulmonary tuberculosis, *39
  removal of grain of, from trachea of child, (107) 1552
Cornea: See also Eye
  diseases of, (15) 73
  interstitial punctate infiltration of, (137) 260
  opacification of, after cataract extraction, *296
  opacity of, from metallic caustics, treatment of, (76) 447—ab
  opacity of zonular, *220
  papilloma of, (123) 1905
  prognosis of injury of, (123) 450—ab
  protective influence of iris in perforated wounds of, (138) 1037
  recurrent traumatic erosion of, due to lachrymal stricture, (118) 1905
  traumatic perforation of, treatment (156) 1734
  ulcerations of, (23) 444—ab
Corneæ, both, complete congenital opacities of, (50) 867
Corneal ulcer, pneumococcus serum treatment of, (101) 541, (92) 1115
Coroners and their duties, (19) 2186
Corpus callosum, tumors in, (127) 178
  callosum, puncture of, in hydrocephalus, epilepsy and tumors, (110) 1042—ab
  luteum, internal secretion of, and reciprocal relations of ovary and pancreas, (123) 1742—ab
  luteum of gestation, (147) 442
  luteum, tuberculous cysts in, (136) 2198
Corpuscles, nucleated, infantile lymphoid leukemia with, (43) 835
  polychromatic and basophilic granulated red, formation of inclusions in (19) 1041
  red blood, action of arsenic on, (14) 627—ab
Corpuscles, red blood, effect of heated serum on, rouleaux formation of, (16) 1464
  red, mica plates for research on, (122) 1474—ab
  retrouterine sensory, in human fetus, (49) 81
  Vater-Pacinian, in Fallopian tube, (135) 359
Correspondence, war, of late James M. Holloway, extracts from, (86) 793, (125) 1377
Corrigan's disease, (104) 1377
Corset for gastroptosis, (11) 438
  for movable kidney and visceral ptoses, *1568
Coryza, acute, treatment of, (81) 799
  paroxysmal, and intractable hay fever, resection of nasal nerve for, (4) 171—ab
Costal arch, osteoplastic resection of, followed by resection of lesser curvature of stomach and esophagus, and esophagostomy, (33) 1739
  cartilages, necrosis of, (44) 2095—ab
Cough during auscultation of lungs, importance of, (160) 1037
  liver, (131) 1563—ab
Council-on-Pharmacy- and - Chemistry, constructive work of, *614
  critics of, *511
Counter prescribing and unethical advertising, (106) 352
County medical society, development of, (57) 168
Court, medical expert in, (54) 1903
Cow-pea, hydrolysis of vignin of, (53) 1108—ab
Cowpox, outbreak of, (10) 1189
Cows, tuberculous, and tuberculosis in children, (22) 73
  with udder affections, milk from, (136) 1743—ab
Coxalgia, diagnosis and treatment of, (145) 171
Coxa valga, (11) 711—ab, (55) 1909
  valga of adolescents, (72) 1286
  vara, congenital, treatment of, (107) 1650
Coxitis, gonorrheal, and protrusion of floor of acetabulum, (89) 2098
Cramps and spasms, differential diagnosis of, from paralysis, (31) 2186
Cranial and mastoid complications. and chronic recurrent suppurative otitis media, (59) 1732
Craniectomy, operative technic in, (59) 1738
Craniotomy, indications for, (88) 259—ab, (88) 625
  spiral osteotome driven by surgical engine in, *1150
Creatin and creatinin, excretion of, (42) 1817—ab
Creatinin in lying-in women, excretion of, (38) 263—ab
Crematoria, construction and management of, (14) 795
Cresol, elimination of, in dog after administration of lysol, (119) 634
Cretinism, endemic, in Chitral and Gilgit valleys, (2) 1906—ab
  pathogenesis of, (88) 447
  sporadic, (46) 867
Crime and imbecility and legal treatment of imbeciles, (108) 534—ab
  and latah, (10) 710
  inebriety and, (92) 1466
  Lombroso on appalling increase of, in our country, (23) 1278
Criminal procedure in European countries, (16) 2001—ab
Cripples, mental, (13) 2093
  principles of modern treatment of, (93) 1040
Croftan's method for differentiating suprarenal tissue by biochemical tests, (107) 266
Cuboid bone, subluxation of, and backward and outward subluxation of astragalus, (64) 356
Culex, three new species collected in Mauritius in 1908, (44) 1039
Culture filtrates, checking of phagocytosis in reagent glass by, (107) 1913
Culture-medium, Conradi *bile-blood*, value of, for diagnosis of typhoid, (107) 1289
  modification of Drigalski-Conradi litmus-agar, for isolation of B. typhosus, (11) 622
Cupping and passive hyperemia in acute suppurative infections, (26) 1640—ab
Curara, action of, and physostigmin on nerve endings or muscles, (44) 1817
Curds in infants' stools, (4) 72—ab
Cure craze, of today, (20) 89
  prevention rather than, (4) 1909
  work, *1485
Curettage, perforation of uterus during and excision of over fifteen feet of intestine, recovery, (77) 1818
Curette and treatment of abortion, (139) 1117—ab
  perfected, and technic of adenoidectomy, (104) 1552
  spring, (191) 87
Current rectifier, alternating, (122) 1820
Currents, high potential, and static electricity, treatment with, (113) 1111
  interrupted, in medical practice, (15) 1283
Curvature, lateral, mechanics of, (140) 1820
  lateral, physical therapy in, (50) 1641—ab
  lateral, treatment of, (120) 1552
Cutaneous Tuberculin Reaction: See Tuberculin Skin Reaction
Cyanid of potassium, disease of primary motor neurons causing clinical picture of acute anterior poliomyelitis, result of poisoning by, (71) 792
Cyanosis and dyspnea, (118) 1731
  congenital paroxysmal, with autopsy, (61) 1039
  polycythemia with, *1777
Cycloplegics in refraction work, (99) 793
Cyst: See also Cysts.
  blood, postoperative menstrual, (60) 81—ab
  dermoid, of jejunal mesentery, (14) 1377
  dermoid, removed from mesentery of small intestine, (105) 2194
  dermoid, removed without interrupting pregnancy, (27) 1372
  echinococcus, alveolar, (157) 1044
  echinococcus, sciatica from compression by, (153) 1044
  enormous endotheliomatous, of great omentum, (39) 1033
  hydatid, and abscess in liver, differential diagnosis between, (132) 1743
  milk-secreting in breast, (144) 1744—ab
  multilocular, of neck in infant, (42) 445
  ovarian dermoid, (50) 1646
  ovarian dermoid, with *carcinomatous* degeneration involving bladder; extirpation; recovery, (110) 1110
1640
96
right
  retrovesical hyatid and retroperitoneal, with two omental cysts of same nature, (41) 1284
Cystectomy, injury of hepatic duct during, (104) 2099
Cystic disease of kidneys with pyuria and hemorrhages, (10) 2005
  tumor of suprarenal removed by operation, (11) 353
Cystidicola farionis, anatomy of, (53) 1039
  farionis, Fischer, threadworm parasitic in swim-bladder of trout, (52) 1039
Cystitis, (11) 865—ab
  chronic suppurative, treatment and prognosis, (96) 793
  cystica, pathology and cystoscopy of, (24) 1640
  from medical standpoint, (49) 2090
  in female, medical treatment of, (54) 350
  medical treatment of, (49) 257
  surgical treatment of, (133) 534
Cystocele, (60) 1612
Cytodiagnosis in differentiating tuberculous from epidemic *meningitis*, (97) 1819—ab
Cytoreaction, ocular tuberculin, beginning of, (121) 1042
Cystoma, polypous ovarian, (106) 2099
Cystoscope, determination of renal function by, (76) 868
  in diagnosis, (112) 75
  universal, demonstration of; purposes and attainments of cystoscopy, (72) 1109
Cystoscopes, modern, originality and priority in, (143) 1037
Cystoscopic pictures, (12) 865
Cystoscopy, (38) 1555
  and catheterization of ureters in children, (75) 1912—ab
  purposes and attainments of, and demonstration of universal cystoscope, (72) 1109
  what can be learned from, in regard to indications and prognosis for abdominal cancer operations? (116) 877—ab

Cystostomy, suprapubic, perineal prostatectomy preceded by, in septic case, (129) 178—ab
Cysts, bilateral ovarian, (43) 1468
  chyle, of mesentery, (39) 1731—ab
  dermoid ovarian, of unusual size, *2218
  gas, of intestine, *1291
  hydatid, of spleen, (43) 873—ab
  in esophagus, multiple, (77) 2097
  mixed ovarian, long delay before recurrence and generalization after incomplete operations on, (49) 1113
  near bladder and prostate, (83) 1471—ab
  of neck, branchiogenic multilocular, (56) 1380
  of spleen, multiple, genesis of, (94) 2098
  of spleen, non-parasitic, (131) 352
  omental, retroperitoneal with retrovesical hydatid cyst, (41) 1284
  papilliferous, of kidney, (108) 869
  sub-pterygial, (123) 534
  tuberculous, in corpus luteum, (136) 2198
Cytologic examination of cerebrospinal fluid, results and prospects of, (72) 955—ab
  findings in ocular tuberculin reaction, (74) 264—ab
Cytosera and pneumonia infection, prophylaxis by, (118) 1560
Cytosia, action of diazobenzene sulfonic acid on, (43) 1731
Cytotoxin inducing fatty degeneration of ovary, (117) 177

D

Dacryocystitis, congenital, (122) 1037
  due to typhoid bacilli, (35) 946
Dactylitis streptococci, (93) 949
Damage on account of injury, duty of injured person to make as light as possible, (89) 793
Dante: physician, (21) 1278, (18) 1372, (18, 23) 1462, (22) 1550
Darwinism and diabetes, (5) 706—ab
Deaf mutes, application of tests to, (21) 1644, (41) 2007—ab
  mutism and general practitioner, (36) 1736
  partially, lip reading for, 722—ab
Deafness, catarrhal, removal of faucial tonsils for, (61) 624
  chronic, how to distinguish varieties of, (18) 261
  chronic middle ear, (95) 793—ab
  dry catarrhal, nasal analgesia as prognostic symptom, *750
  of non-suppurative origin, examination of vestibular apparatus in, (42) 1007
  total, following infectious diseases, (127) 870
Death after tapping ascites, (48) 1555—ab
  apparent, resuscitation after, by oxygen and intubation, (132) 2198—ab
  certification and verification, (11) 1111
  certificates of causes and life insurance, (97) 1196—ab
  from malignant endocarditis treated with colloidal silver, *1510
  heredity and disease, (139) 1820
  100 laparotomies in country practice without, (49) 1374—ab
  or removal of tuberculous patients, necessity of disinfection after, (16) 1184
  relative, effect of complete anemia of central nervous system in dogs resuscitated after, (26) 2089
  sudden, angioneurotic edema as familial cause of, (2) 2005—ab
  sudden, following intravenous injections of blood corpuscles of foreign species, (53) 1903—ab
  sudden, during pregnancy or puerperium, (155) 1037
  sudden, in infant with enlarged thymus with three lobes, (66) 792
  sudden, that may come to recently delivered mother, (115) 1733
Deaths after spinal stovain anesthesia, (36) 1190—ab
  at Basle, inebriety as cause of, (137) 1043
  under anesthetics, prevention of, (33) 1378—ab
Debility, pseudophosphaturia as sign of, (117) 1651—ab
Debts which medical science owes to surgery, (132) 352—ab
Decalcification of pregnancy, protracted, (52) 81—ab
Decapitation, delivery of fetal head after, (33) 2001
Decidua, structure of, (55) 2192
Decompression, cerebral, principle of, (42) 1551—ab
Decompression operation, in bursting fractures of skull, (30) 74
  subtemporal, in chronic nephritis with uremia and neuroretinal lesion, (31) 1902—ab
Decubitus, gangrenous, severe myelitis with, (83) 447
  with prolapsus uteri, (140) 86
Defense of body as illustrated by disease in children and adults, (43) 1284—ab
Deep-seated processes, x-ray treatment of, (78) 264—ab
Defectives, mental, in prison, (16) 354—ab
Defensive arrangements of body as shown by incidence of disease in children and adults, (2) 353—ab
Deformities, congenital, and congenital syphilis, (69) 1380
  in limbs, (120) 634
  of infantile paralysis, treatment of, (67) 1642—ab
  treated by plaster-of-Paris and mechanical devices, (75) 1466—ab
Degeneracy, moral, and alcohol, (94) 1466
  stigmata of, anomalies of, (25) 707—ab
Degeneration, adipose-genital, removal of hypophysis for, (103) 877—ab
  amyloid, etiology of, (98) 266
  phenomenon of, and healing in amyloid kidney, (93) 2098
  spontaneous arterial, in rabbit, *1056
Delirium-tremens, artificial auditory hallucinations in, (93) 1559—ab
  treatment of, (10) 348
Delivery: See also Labor.
  after vaginofixation, (136) 1117—ab
  by Müller's technic, (109) 541, (76) 1824—ab
  by uterus-abdominal wall fistula, (185) 87—ab
  Cesarean section vs. other methods of, in contracted pelvis, (9) 1377
  complicated by elongation of cervix, (16) 2235—ab
  danger with placenta prævia of natural straining to aid, and extraperitoneal Cesarean section to reduce, (112) 1651—ab
  full term or abortion, gonococcus as factor in infection following, (59) 2091
  in rabbits, experimental postponement of, (109) 266
  mechanical obstruction to, intrapelvic vs. abdominal method of dealing with, (42) 623—ab
  ovariotomy during, (84) 1739, (23) 2094—ab
  perforation of cecum following, (107) 1377
  premature, in home, pubiotomy and induction of, (76) 264—ab
  solid fibroma of ovary obstructing, (13) 2190
  spontaneous rupture of uterus at commencement of, (77) 631
  under scopolamin morphin, (123) 1827—ab
Delusions and paranoia, (68) 1193
  of negation, three cases of melancholia with, (138) 170
Dementia-præcox, *34, (26) 1038, (45) 1551, (89) 1643, (70) 2189—ab
  and confusional insanity, (122) 1553—ab
  early symptoms of, (36) 531—ab
  etiology of, (1) 2185, (4) 2233—ab
  in India, (38) 445
Dengue, (83) 1281
  prevention of, (38) 1038—ab
Dental education, *275
  needs of poor of London, (16) 261
  plates, extraction of, from esophagus, (49) 1380
Dentistry, state reciprocity in license to practice, *563
Depression, morbid, and its treatment, (89) 358
Dermametropathism and x-ray baths, (149) 535
Dermatitis due to irritating effect of metol, (16) 1106—ab
  exfoliativa, large doses of quinin in, (119) 1188—ab
  exfoliativa neonatorum, (89) 533
  from plants, (137) 85
  from use of walnut juice hair dye, (71) 1035—ab
  industrial, (21) 1038
  occupation, (24) 1821—ab
  of workers on cement, (41) 953-ab
  universal, of children at breast, (22) 536—ab
  x-ray, (45) 256
  x-ray: its prevention and treatment, (166) 950, (24) 1283
Dermatology and syphilis, (80) 710
  carbon dioxid snow in, (75) 356—ab, (106) 1037—ab
  recent, (39) 1555
  static electricity in, (114) 449
Dermatomycoses, tropical, (35) 1190
Dermatomycosis common to man and animals, (17) 1644
Dermoid, ovarian, multiple peritoneal pseudometastases of, (85) 1115
Dermolysis—an undescribed dissolution of skin, (81) 710—ab
Desessartz and Jean-Jacques Rousseau, (38) 173
Desmoid reaction, (95) 1110
  tumors of abdominal wall, (35) 1033
Desquamation from sweating, *1328
Detroit Academy of Medicine, deceased founders of, (107) 442
Detrusor-paresis, (24) 1901
Diabetes-mellitus, (52) 1185, (102) 1377, (136) 1820, (71) 1911—ab
  amputation in gangrene due to, (13) 789—ab
  and cholelithiasis, (116) 634
  and Darwinism, (5) 706—ab
  and glycosuria, diagnosis of, (114) 1282
  and pregnancy, mutual relations of, (63) 1113—ab
  conjugal, (6) 530—ab
  cresco flour and gluten flour in, 932
  elimination of sugar in, (135) 634
  experimental, (54) 954—ab
  from surgical standpoint, (126) 534
  gallstones in etiology of, (29) 623
  glycosuria, hyperglycemia, and glycolysis, (31) 2094
  gout and rheumatism, diagnostic value of symptoms of upper air tract in, (61) 1280
  in acromegaly and hypophysis glycosuria, (116) 1827—ab
  in infants and children, (87) 1376—ab
  last illness of King Oscar II., (121) 1652
  metabolism in, (90) 625
  oatmeal diet in, (136) 267—ab, (74) 1036—ab, (120) 1290
  origin of, (71) 1470—ab
  pancreatic and gallstones, (23) 2234—ab
  pancreatic, and parabiosis, (107) 84—ab
  pathology and treatment of, (1) 2189—ab, (10) 2235
  phloridzin, action of glutaric acid on, (55) 954, (92) 1288
  phloridzin, experimental research on, (87) 1649
  produced by adrenalin, (44) 537
  regimen in, (27) 1038
  severe, due to syphilis, (63) 798
Diabetic acidosis and treatment of diabetic coma, (82) 265—ab
  acidosis, underlying chemical principles of, (27) 73—ab
  coma, treatment of, and diabetic acidosis, (82) 265—ab
  patients, effect of operations on, (69) 169—ab
  prostatic disease in, (66) 258—ab
  régime, (26) 1555—ab
Diabetics, resistance of, to bacterial infection, (26) 1550
Diagnosis, (56) 2188
  abdominal, auscultation in, (3) 2234
  accurate in abdominal diseases, observation of pathology on operating table necessary for, (140) 1906
  and pathology, study of, should not lessen confidence in intelligent use of drugs, (82) 1186
  and therapeutics, hold fast to that which is good in, (61) 1732
  between spasdomic movements of face and neck, elements of, (20) 1730
  case for, (57) 1732
  differential, between complete and incomplete uretero-vaginal fistula, (61) 709—ab
  difficulties of, (21) 1190—ab
  of brain diseases, *461
  of functional diseases, (28) 2186
  physical, (155) 78
  physical, importance of light percussion in, (65) 1375
  value of reflexes in, (124, 130) 1037—ab
  value of tele-radiography in, (13) 1283
Diaphanoscopy and gastroduodenoscopy, (48) 713—ab, (159) 1476—ab
  of eye, (133) 1188
Diaphoresis in internal ocular affections, (120) 1037
Diaphragm, heart and stomach, changes in outlines of, during respiration shown by x-ray, (123) 442
  hernia of, (109) 633
  injuries to, importance of early diagnosis and surgical treatment, (66) 709—ab
  neurosis of, (115) 1741—ab
  surgical importance of region below, (96) 2194
  unilateral paresis of, with involvement of sympathetic due to traumatic paralysis of brachial plexus, (77) 1381
Diarrhea, (21) 1372
  choleriform, of cold weather, *1499
  chronic dyspeptic, and chronic gastrointestinal dyspepsia, (86) 1559—ab
  chronic, local and surgical treatment of, (15) 790—ab
  compensatory, *467
  epidemic, organism in, (7) 870-ab
  in children from gastric achylia, (99) 2090—ab
  in exophthalmic goiter, (119) 266—ab
  in infants, (147) 1734
  infantile, and dysenteric bacilli, (50) 76
  infantile, character of stools and intestinal findings in, *1306
  infantile, epidemic, (7) 1189—ab
  lienteric, (87) 1186
  on Boston floating hospital, summer 1907, (2) 1031—ab
  puerperal, of Bengal, (5) 2005
  summer, (98) 2189
  summer, in children (135) 1282
  summer, in children, treatment of, (138) 534, (117) 1042
  summer, in infants and children, (137) 534
  summer, in infants, treatment of, (24) 1372
  treatment of, (131) 534
Diastase in cat's saliva, (59) 350—ab
Diastasis of left temporo-parietal articulation, fracture of base of skull with, ending in complete recovery, (73) 1818—ab
Diathesis, influence of, on causation and treatment of diseases of eye, (19) 2190
  neuropathic, as condition of headache and other functional diseases, (98) 793
Diathetic states, study of, (7) 1461—ab
Diazo reaction of normal urine, (76) 955
Dickens' doctors and things medical, (80) 2189
Dies caniculares, (7) 438, (5) 621
Diet and digestion, (78) 1110—ab
  and hygiene of children, (91) 2189—ab
  antidiabetic, secretion from pancreas fistula and influence on it of, (68) 1380—ab
  ash-free, and salt metabolism, *727
  ash-free, experiments with, (37) 1463—ab
  constant and daily variations in work of kidneys on, (133) 634
  exclusive proteid, in certain digestive disorders, (20) 2006
  in tuberculosis, (75) 1186
  iodin-free, effects of feeding animals on, (146) 1111
  in bronchial asthma, (20) 354
  in infancy and childhood, (19) 712
  milk, exclusive, treatment of obesity by, (92) 876—ab
  milk-free fluid, in typhoid, (18, 19, 20) 73—ab
  milk-vegetable, in pernicious anemia, (138) 1744—ab
  nervousness in children and, (104) 1560—ab
  oatmeal, in diabetes mellitus, (136) 267—ab, (74) 1036—ab
  salt-free, indifferent results with, in infantile eczema, (84) 539
  purin-free, limitations of, (6) 1906—ab
  to reduce proportion of lime in arterial atheroma, (52) 2007
  uric acid-free, mistakes which may prevent best results of, (9) 1371
Dietetic and injection method of treating typhoid, (69) 792—ab
  treatment of gastric ulcer, (91) 267—ab
  treatment in dilatation of esophagus, (16) 255
Dietetics as therapeutic measure, (67) 1375—ab
Digestion and diet, (78) 1110—ab

Digestion and nutrition in early infancy, special characteristics of, (45) 1255—ab
 and secretion, effects of alcohol on (101) 793
 disturbances of, in infancy due to overfeeding of fat, (175) 950
 in infants *2125
 in infants, carrot soup in disturbance of, (73) 955—ab
 peptic laws of (57) 799
 proteid, and alkaloids (115) 752
 starch, in stomach and intestines, (44) 1555
 stomach, (47) 791
Digestive disorders, value of exclusive proteid diet in, (20) 2006
 disturbances in rachitis, (51) 2192—ab
 system, disorders of, vicious circles with, (5) 2189
 system, physiology of (73) 2004—ab
 Tract See Gastrointestinal Tract
Digitalin tablets, physiologic assay of *2130
Digitalis, indications and contraindications for, (69) 1552—ab, (62) 1732
 in pneumonia, *2214
 protracted use of, (5) 78
 treatment, chronic influence of, on heart, (99) 1741—ab
 use and abuse of, (27) 459—ab
Dilatation of stomach acute or duodenojejunal ileus? (71) 1648
Dilator B[illegible] in dilatation of uterus in labor, (31) 872
Dionin in diseases of eye, (95) 1819
Diphtheria and chronic atrophic rhinitis relations between, (104) 1116
 and impetigo contagiosa in child, (5) 870
 and serum treatment, (70) 631—ab
 and tuberculosis eosinophilic cell occurring in hematopoietic organs in, (104) 869
 antitoxin in, (114) 793, (94) 1472—ab (114) 1914
 antitoxin, large doses, in, *918
 antitoxin, skin reaction to, *1510
 antitoxin, untoward results from, *1154
 bacilli, removal of diseased tonsils and adenoids to rid throat of, (66) 1280
 bacteriologic diagnosis of, (52) 1374
 bolus in, (100) 176
 carriers, (35) 1112
 cervical and submaxillary adenitis in convalescence from, (34) 2006
 circulatory disturbances of, *2121
 diagnosis, (58) 1108
 epidemic at Soro in 1908, and antitoxin prophylaxis, (129) 1914
 epidemic, in deaf mute asylum, (160) 1475
 experiences at Stettin with, (58) 174
 genital infection in, simulating puerperal fever, *965
 group of bacilli, variability in, (54) 2003—ab
 house epidemic of, toxic nervous affections following, (89) 1470
 in West Australia, (36) 1112
 laryngeal, (127) 260, (114) 1158
 laryngeal, intubation for, (79) 1912
 laryngeal, mechanical devices in treatment of, (82) 625
 leucocytes in, before and after administration of antitoxin, (74) 1166—ab
 local treatment of, (151) 1475—ab
 paralysis following, (111) 634—ab
 pyocyanase in (122) 1042, (91) 1258—ab, (81) 1649
 severe, adrenalin saline injections in, (90) 799
 sporadic, (73) 1552
 subsequent multiple neuritis of, with vesical involvement (13) 255
 paralysis following treated by serum, (6) 696—ab
 treatment of, at Cologne, 1900 S, (108) 1560
Diphtheroid throat affections, chronic, (51) 174
Diplegia and motor aphasia idiopathic epilepsy complicated by, *1778
Diplococcus immunizing properties of, cultivated on organ extracts, (125) 267
Diplopia, monocular, (25) 1253
Dipsomaniacs and inebriates Massachusetts State Hospital for, (82) 2159
Disability, significance of certain eye diseases and symptoms in (115) 1165
Disc choked, palliative trephining for, (113) 1475—ab
Disease, acute infectious eruptive, outbreak of (8) 1906
 and dust (17) 871
 and health, urobilin in stools in, (29) 1191
 and heredity, (1) 1820
 cause and nature of, history of conceptions of, (131) 178
 general, suggestions of pupil in, (78) 1902—ab
 heredity, and death, (129) 1820
 immunity to, (126) 1037
 in children and adults, defensive arrangements of body as illustrated by, (2) 253—ab, (43) 1281—ab
 infectious, leucocytic changes in blood in, physiologic importance of, (71) 174
 inherited or acquired tendency to, (100) 1259
 malignant, pathology of, (141) 442
 medicinal treatment of, sufficiency of official drugs and preparations in, *1477
 mental, differential diagnosis and treatment of, some forms of, (120) 1037
 mental states and oxygen in cause and cure of, (18) 1275
 organic, of nervous system, early diagnosis of, (9) 2190—ab
 personal factor in, (15) 1519
 street dust as factor in spread of, (120) 626
 transmissible, notification of, (65) 446
 tropical, febrile, (84) 1258
 types of, modern life and its effects on, (100) 442
 what does it mean? (28) 1372
Diseases abdominal, observation of pathology on operating table necessary for accurate diagnosis, (140) 1906
 classification of, apoplexy in, (7) 1371
 chronic, physiotherapeutics in, (67) 76
 connection between, (83) 955—ab
 contagious, municipal hospitals for, medical and financial importance to community, (64) 2091—ab
 diathetic and metabolic, (123) 260
 early clinical types of certain, (31) 1555—ab
 functional, diagnosis of, (28) 2186
 functional genitourinary, and venereal prophylaxis, (110) 1377
 in hospitals registration of, promotion of uniformity in, (15) 261
 industrial, international committee on, (23) 1038
 industrial, notification of, (20) 1038
 infections, relation of milk to, *1491
 infectious, bacilli carriers in transmission of, (35) 1038—ab
 infectious, colloidal silver in, (49) 355
 infectious, growth of knowledge in, (118) 260
 infectious, serum treatment of, in Glasgow Fever and Smallpox Hospitals, (46) 1379
 internal, and female genitalia, (23) 1550—ab
 international classification of, its advantages, defects and deficiencies, (2) 1371—ab
 nervous, organic and functional, differentiation of, (125) 260
 of blood, (123) 260
 of domesticated animals communicable to man, (23) 1820
 of skin and other organs of body, (74) 792
 of spleen, (123) 260
 symptomatology of, in childhood, (93) 2189—ab
 tropical, in Mississippi Valley, (67) 2091—ab
 tropical, in Philippines, board for study of, (103) 1733
Disinfectant, change in concentration of, with variation in rate of disinfection, (31) 2190
Disinfection, methods for, (121) 1561
 necessity of, after death or removal of tuberculous patients, (16) 1184
 official, in rural districts, (47) 355
 of books, (61) 1108—ab
 room, (18) 438—ab
 variation in rate of, with change in concentration of disinfectant, (31) 2190
Dislocation and fracture of neck at sixth cervical vertebra in man of sixty, recovery, (10) 1815
 and fracture of second cervical vertebra, (8) 2185
 atlo-occipital, (32) 74—ab, (49) 75—ab
Dislocation, backward, of foot and extension dressing with flexed knee, (121) 430
 of hip, congenital, (51) 351, (70) 1648
 of hip, and congenital muscular rigidity, (80) 356—ab
 of hip joint congenital, treated by open operation, (137) 1282
 of hip congenital, treatment of, (2) 260—ab, (60) 1738, (48) 1822, (40) 2006
 of hip, dorsal, reduction of, (75) 1640—ab
 of hip, irreducible forward, operative treatment of, (43) 797
 of humerus with fracture, operative indications in, (58) 441, (65) 624
 of knee, congenital, operative reduction of, (89) 1471
 of metatarsus in Lisfranc's joint, (51) 1822
 of pelvis (78) 2007
 of shoulder, recurrent, successful operation for, (46) 624
 of shoulder, simple, traumatic, prognosis of, (71) 2193
 of tarsometatarsal joint, irreducible and old, surgical intervention in, (40) 629
 of ulnar nerve, recurrent, (38) 1372—ab
 simultaneous, of both shoulder joints (49) 629
Dislocations and fractures, treatment of, (106) 1600—ab
 rare of shoulder, pelvis and hip, (47) 797
Dispensary, modern babies', (144) 1282
 practice, hyperemia in, (116) 1883
Dispensing versus prescribing, (78, 79) 1732
Dissections anatomic, preservation of, with permanent color of muscles, vessels, nerves and organs, by new method, *642
Diuresis methods of stimulating, (95) 1650—ab
Diverticula, congenital, of male urethra, histology and genesis of, (71) 1286
 intestinal pathology of, (43) 2005
 in trachea, (110) 266
 multiple of sigmoid, (12) 1906
 of male urethra, cases and treatment of, (79) 1114
Diverticulitis, acute, (142) 626
 acute, of sigmoid, with operation before rupture, *543
 and Diverticulosis, (90) 793—ab
Diverticulum Meckel's inflammation of simulating appendicitis, *2060
 Meckel's, in hernia, (31) 1467
 Meckel's, invagination of intestine from inward protrusion of, (99) 2194
 Meckel's, perforation of (72) 1193
 Vater's, melanoma of, and of lower portion of common bile duct causing complete obstruction, (152) 870
Doctor See *Physician*
Doctrines, old useful errors, (36) 797
Dog bites, (89) 1186
 days, (5) 530
 fish, spiny, globulin from egg yolk of, (49) 1731
 frequency of microsporon caninum or lanosum in, (25) 712
 ligation of parathyroids in results of chronic parathyroiditis as obtained by, (109) 869
 maximum of elimination of cresol in after administration of lysol, (119) 634
 peculiar cells on tonsil of, probable significance (98) 1913
 successful infection of with cultures of Leishmania infantum, *1423
Dogs, biochemical and anatomic changes induced in, by potassium cyanid, (11) 348
 resuscitated after relative death, effect of complete anemia of central nervous system in (25) 2089
Dorsey, J S, secret of his success, (59) 168
Dosage by drops and its physical bases, (125) 1043
 comparative in children, (92) 2189—ab
Drainage, (71) 1552—ab
 and irrigation of bladder after prostatectomy, device for, (80) 948—ab
 diffuse suppurative peritonitis treated without, (127) 1037
 intranasal method for opening frontal sinus and establishing, (67) 1552
Drainage, mechanism of, of normal accessory sinuses, (126) 870
 of ankle joint, method of, (59) 1185, (154) 1188—ab
 plea for, in abdominal and pelvic operations, (75) 2004—ab
 rectal, pelvic abscess with reference to, (139) 353—ab
 spool, rubber, for empyema of chest, (62) 1642
 vaginal or suprapubic, in acute diffuse peritonitis in women, (43) 1551—ab
Drains and tents, intrauterine, (96) 716—ab
Dropsy See also Ascites
 epidemic of, in Dacca, insane asylum, (38) 1737—ab
 normal pregnancy, and kidney of pregnancy, pathogenesis of eclampsia and, (52) 1647—ab
Drug action on internal secretion, and nerve antagonism, (175) 87
 and liquor addictions, neurasthenia and, (174) 171
 inspection and pure food (69) 2091
 store therapeutics, *421
 treatment in cardiovascular conditions, *1745
 treatment vs osteopathy, *2135
Druggist See Pharmacist
Drugs, action and elimination of, injected intravenously, (95) 540—ab
 action of, on blood serum, (84) 356—ab
 action of, on blood vessels, (65) 2003
 and preparations official, sufficiency of, in medicinal treatment of disease, *1477
 chemistry of importance of urea-carbonic acid for, (59) 797
 in tuberculosis, use and abuse of, (38) 1108
 individual, action of, obscured by mixtures, (57) 791—ab
 influence of, on internal secretion as affected by nerve action, (175) 87
 injected, temporary localization of, (91) 796—ab
 narcotic, dual action of, (112) 1466
 physiologic tests of (72) 264
 proportion of active principle in, prescribed in various forms, (72) 2009
 remedial measures in cardiac disease other than, (85) 1376
 self administration of, or does it pay to have physician? (65) 709
Drum membrane artificial, and exostosis in adults, (67) 792
Drunkard, habitual, treatment of, (17) 1377
Drunkenness, pathologic, (102) 1289—ab
Duct, common, permanent stenosis of, from inflammation or duodenal ulcer, (9) 530
 common, ruptured operation, recovery, (74) 1469
 hepatic, injury of, during cystectomy, (104) 2005
 lachrymonasal, imperforation of, in new born, *188
 nasal, treatment of strictures of, with lead styles, *1207
 thyreoglossal, cyst of, (34) 1640
Ductus arteriosus, patent, (8) 171, (29) 1559
Ducts Muellerian and Wolffian, development of, congenital unilateral absence of urogenital system and, (57) 798
Dulness paravertebral area of, in pleurisy, (98) 1472—ab
 paravertebral triangle of, (49) 1822—ab
 paravertebral triangle of, in pregnancy, (34) 1902—ab
Duodenal and gastric ulcers, (102) 269—ab, (77) 533—ab, (91) 1036
 and gastric ulcer, acute perforating, (42) 2190—ab
 and gastric ulcers, chronic, (171) 171, (110) 352
 and gastric ulcers, secondary to wounds of bladder, (105) 270—ab
 glycosuria, negative experimental research on, (80) 1912
 ulcer, *556, (12) 795—ab
 ulcer, acute perforating, (166) 1819
 ulcer before age of ten, (78) 2155—ab
 ulcer, chronic, (51) 947
 ulcer, diagnosis and treatment, (26) 172—ab, (144) 554
 diagnosis of, (27) 2001—ab
 ulcer or inflammation, permanent stenosis of common duct from, (9) 530
 ulcer, prominent symptoms in diagnosis, *651

Duodenal ulcer, surgical treatment of, (159) 78
Duodenitis, phlegmonous, (128) 1474—ab
Duodenojejunostomy, chronic, gastromesenteric ileus cured by, (41) 1464
Duodenojejunal fossa, hernia into, (51) 1034
Duodenum, and stomach, benign diseases of, (160) 171
  and stomach,. benign diseases of, end-results following operation for, (101, 103) 260—ab
  and stomach, direct visual inspection of, and diaphanoscopy, (48) 713—ab, (159) 1476—ab
  and stomach, hemorrhage from, (24) 167
  and stomach, round ulcer of, (77) 533—ab
  anemic spot on, which may be mistaken for ulcer, (126) 352
  diverticulum of, as cause of general jaundice, (81) 1381
  medical aspect of, (148) 1037
  occlusion of, (58) 1113—ab
  postoperative occlusion of, (68) 356—ab
  secondary occlusion of, acute paralysis of stomach with, (122) 717
  surgery of, (149) 1037
  ulcer of: See Duodenal Ulcer
  x-ray and anatomic study of, (73) 356
Dupuytren's contraction, surgical aspects of, (33) 439
Dust and disease, (17) 871
  in spermatic fluid, (126) 359
  removal in grinding trades, (19) 1038
  street, as factor in spread of disease, (120) 626
Dusty trades in Sheffield, mortality in, (16) 1038—ab
Duties and responsibilities of State society, (146) 1037
Dwarf growth and simple mitral stenosis, (52) 873—ab
Dysentery, (30) 707
  amebic, medical vs. surgical treatment of, *2140
  amebic, treatment of, on Isthmus of Panama, (14) 2234—ab
  asylum, and ulcerative colitis, (25) 1377
  bacillary, serum treatment of, (121) 442
  bacilli, and infantile diarrhea, (50) 76
  bacilli carrier, (115) 1289—ab
  bacilli, toxin and antitoxin of, (67) 954
  chronic, surgical treatment of, (20) 172
  is it sole cause of tropical liver abscess, (15) 1821—ab
  Madagascar plant as remedy for, (44) 1646
  santonin in, (55) 1469—ab
  toxin, production of immunity against, (19) 1735
  with intestinal amebas, but without hepatic abscess, (12) 1820—ab
  tropical, *573
Dysmenorrhea, (49) 531, (22) 1901
  and amenorrhea, tuberculin in, (117) 2012—ab
  etiology and treatment of, (94) 716—ab
  from traction on peritoneum, (109) 359—ab
  membranous, exfoliative endometritis, (42) 1279—ab
  nasal, (60) 264—ab
  treatment of, by forcible dilatation of cervical canal and application of Wylie drain, (93) 169—ab
Dyspepsia, chronic, gastrointestinal, and chronic dyspeptic diarrhea, (86) 1559—ab
  from intestinal fermentation, (65) 174—ab
  intestinal, (57) 174
  nervous, or dyspeptic symptoms due to eyestrain, (24) 623
  what does it signify? (111) 442, (77) 1732
Dyspeptics, thin, physiologic loss of weight in, (48) 1285—ab
Dyspnea and cyanosis, (118) 1734
  causes of, (16) 1111
  of gastric origin, (50) 953
  patients, x-ray inspection of thorax in, (65) 874—ab
  syphilitic, (173) 171
Dystocia, (136) 534: See also Labor *and Delivery*
  choice of methods of operation in, (4) 530—ab, (26) 1033—ab
  prevention of, (39) 1279—ab
Dystrophy and syringomyelia, (94) 1913—ab
Dystrophy, muscular, are there latent *or rudimentary types of? (126) 178*
  muscular, following acute polio*myelitis in infancy, (116) 949*
  muscular, progressive infantile, congenital muscular defects, and infantile disintegration of nuclei, (83) 1115—ab

E

Ear affections, balneotherapy in, (84) 715
  and nose, vaccine therapy in suppurations of, (85) 441
  cases, recent, (158) 1188
  catarrhal disease of, and adenoids, (99) 2005
  cerebellar abscess originating in, treatment, (9) 627, (138) 950
  cerebration deficient in chronic purulent inflammation of; cure by radical mastoid operation, (144) 950
  complications of influenza and their treatment, (50) 1468—ab
  cosmetic and plastic surgery of, (136) 1906
  deafness of non-suppurative origin, examination of vestibular apparatus in, (42))2007
  destruction of labyrinth of, for severe vertigo and tinnitus, (31) 1378
  diagnosis of brain abscess originating in, (93) 2092
  discharges, pathology of, (46) 81, (32), 537, (40) 1379, (41) 1468
  disease, paralysis of sixth cranial nerve in, (20) 1467
  diseases, lactic acid bacilli cultures in, (18) 348
  diseases, treatment of, (82) 441
  Eustachian catarrh with hyperinflation of tympanic cavity, (89) 1552
  eye, nose and throat conditions, faulty, effect on mental develop*ment of school children of, (88)* 1466
  eye, nose and throat, expert testi*mony and medical jurisprudence* as relating to, (111) 1377
  in mumps, *1961
  inflammation, chronic, purulent, fatal cavernous sinus thrombosis following, (34) 537
  instrument for treatment of disease of, (87) 1552
  internal inflammation, acute, of, (12) 1371
  internal inflammation, suppurative of, (77) 1649—ab
  intracranial lesions originating in, (62) 624, (131) 1734, (27, 28) 1820
  indications and technic for incising drumhead in acute otitis media, (111) 793
  indications for mastoid operation, (71) 868—ab
  labyrinth deafness with "tone island," (86) 441
  labyrinth of, non-acoustic functions of, (87) 2092
  labyrinth of, reactions of, and their significance in diagnosis of suppurative labyrinthitis, *1754
  lobule of, and scalp, recurrent keloid of, (86) 1552
  lobule of, and tuberculosis, (108) 177
  manifestations in inherited syphilis, (40) 81—ab
  meato-mastoid operation in chronic mastoiditis, *1062
  middle, acute infections of, importance of early diagnosis, (100) 626
  middle, aspirator for, (55) 1817
  middle, chronic deafness, (95) 793—ab
  middle, development of, (27) 1467
  middle, exploratory puncture of drum membrane in diseases of, (125) 1820
  middle, ignorance of significance of disease of, (19) 2089—ab
  middle, Inflammation of: *See Otitis-media*
  middle, sclerosis, *364
  middle, sinus thrombosis following removal of granulation tissue from; excision of internal jugular vein, (88) 1552
  middle, tube for self-insufflation of vapor into, (19) 1032
  middle, two points in development of, its contents, (42) 1646
  nose and throat complications of infectious diseases, (65) 2188
  nose and throat, diseases of, climate of north and north-west in etiologic and therapeutic relation to, (102) 1552
  Pain in: See Earache
Ear, sinus thrombosis and pyemia, (92) 1552
  speculum with handle, *1330
  symptoms of cardiovascular disease, *1594
  syringe for removal of foreign bodies and plugs from, (63) 1193
  thrombosis of sigmoid sinus and internal jugular vein originating in, operation for, (135) 950
  traumatic defects of, plastic restoration of, (66) 875—ab
  tuberculosis of, (12) 1278—ab
  tuberculosis of, inoculation treatment, (35) 80
  tympanic membrane of, permanent closure of large perforations in, with increase in hearing, (84) 441
  unusual *mastoid operation in children*, (90) 869
  work in Vienna, (116) 1733
  work, recent advancements in, through bacteriotherapy, (68) 1732
Earache, (63) 76
  surgical treatment of, (103) 626
  treatment of, without operation, (102) 626, (110) 793
Eating, interchange of gases and consumption of energy after, (110) 1826
Eclampsia, albuminuria and pregnancy, parathyroid treatment of, (119) 1651—ab
  antepartum, (51) 440
  blood pressure in, (35) 256—ab
  Cesarean section in; recovery of mother and child, (61) 947
  Cesarean section, vaginal, in, (69) 624
  decapsulation of kidneys in, (189) 87, (25) 261—ab, (147) 360
  pathogenesis of, (145) 360—ab, (63) 1739—ab
  pathogenesis of, and normal pregnancy, dropsy and kidney of pregnancy, (52) 1647—ab
  placental origin of, (55) 1647—ab, (107) 2099—ab
  plea for prompt evacuation of uterus in, *2041
  puerperal, (37) 349, (52) 440, (20) 531, (45) 1185, (71) 1465, (86) 2189—ab
  puerperal, action of remedies usually employed in, (39) 349
  puerperal, suprarenal capsules in, (51) 81—ab
  toxin, attempt to determine, by experiment, (137) 359—ab
  treatment of, (91) 169—ab, (25) 261—ab, (38) 349, (133) 359—ab, (164) 950
  veratrum viride in, (16) 1377—ab
Ecology, therapeutics in light of, (130) 260
Ecthyma, acute, (79) 1280
Ectromelia, associated with other deformities, (45) 2002—ab
Ectropium, cicatricial of lower eyelid, *principles on which operation for* is based, (117) 352
Eczema and asthma, (67) 539—ab
  and vaccination, (79) 1381
  chronic, coal tar in, *497
  etiology and treatment of, (13) 353—ab, (16) 865
  in infants, salt-free diet in, (84) 539, (84) 1825
  nature and causes of, *1829
  Paget's, of nipple, with carcinoma, (40) 1555
Edebohl's Operation: See Kidney Decapsulation
Edema, angioneurotic, as familial cause of sudden death, (2) 2005—ab
  angioneurotic, Henoch's purpura and, (28) 261
  chronic inflammatory, of submucous tissues of nose, (58) 1039
  essential, angioneurotic and other examples of, in children, (41) 1817—ab
  general, of obscure origin, salt elimination in urine of individual with, followed by cure, (35) 2002
  generalized, of fetus, (6) 1038
  hereditary, of legs with acute exacerbations, (33) 262—ab
  nature and cause of, *830
  persisting since birth, (28) 872
Edestin test for pepsin, (92) 83
Edinger's theory of using-up of nerve cells, (123) 1914
Education, dental, *275
  higher medical, (187) 951
  ideal medical, (90) 259
  modern methods of, and effects on health of race, (140) 1553—ab
  of public, (90) 710—ab
  plea for more *liberal one for medical student*, (27) 1278
  public, *against* tuberculosis infection, (91) 1904
Eel serum, toxin and anaphylactic substance of, (90) 1040
Effusion, pleural, cholesterin crystals in, (121) 800
  pleural, insufflation of air in, (59) 1380—ab
  pleural, recurring, injections of air in, (55) 1738
  traumatic in knee, treatment of, (100) 2011
Effusions, pleuritic, influence of, on pulmonary tuberculosis, (64) 1910—ab
Egg white, sensitizing portion of, (51) 1731
  yolk of spiny dog fish, globulin from, (49) 1731
Eggs, idiosyncrasy to, (153) 86—ab
  of parasites, detection of, in stools, (61) 1193—ab
Egyptians, prehistoric, syphilis in, (3) 1038
Elbow, anchylosis of, arthroplasty for, (36) 2090—ab
  injuries at, (23) 790
  resection of, technic for, (119) 1384—ab
  resection with retention of function, (87) 1040—ab, (56) 1192
Electric treatment, lightning, influence of, on vitality of cells, (115) 1474—ab
Electricity, accidents from, suddenly fatal, 2100—ab
  and lightning, injuries from, (78) 715—ab
  cataphoric application of, (119) 1734
  high-frequency, and hysteria, (90) 2010—ab
  high-frequency, in cardiac disease, (2) 864
  in diagnosis and treatment of nerve injuries of upper extremity, (22) 1283
  in medicine, (82) 259, (69) 868
  necessity for, in reflex atrophies, (40) 537—ab
  static, and high potential currents, treatment with, (113) 1111
  static, and its therapy, (162) 950
  static, in dermatology, (114) 449
  static, in nervous diseases, (70) 1465
Electrocardiogram of irregular pulse, (89) 1559
Electrocardiograms in diagnosis of heart disease, (118) 2012—ab
Electrolytic medication, treatment of *skin diseases by, (21) 1735*
Electrotherapy, (14) 1462—ab
  attitude of neurologists to, *13
  in tuberculosis, (17) 2234
Electrodiagnosis, (132) 950
Elephantiasis, congenital, (55) 630
  of scrotum, operative cure of, (36) 2187
  palliative treatment of, (117) 260, (21) 1906
  x-rays in, (145) 1820
Embolism, air, with placenta prævia, (123) 1561—ab
  and thrombosis, warning symptoms of, (145) 1043—ab
  of pulmonary artery, operative treatment, (96) 358—ab, (77) 539—ab, (54) 713—ab
  postoperative lung complications of, (57) 1556—ab
  pulmonary, after radical operation for inguinal hernia, (41) 629—ab
  pulmonary, clamping of large vessels near heart in operative treatment of, (76) 2097—ab
  pulmonary occluding, (37) 74—ab
Embryologic study of rare malformation, (120) 359
Embryology, pathologic, (142) 718
Embryoma, ovarian, (56) 538
Embryonal conditions in blood, re*trogression to,* (62) 174
Embryos, delicate unfixed, meso-photography and application to, (24) 1111
Emergencies, surgical, with tuberculous larynx, (106) 1552
Eminentia capitata, *fracture of,* (33) 1640
Emotions, pathology and physiology of, (8) 865
Emphysema, chondrectomy for, from rigidity of thorax, (51) 797
  in skin as accident from intubation, (58) 874
  of lung, operative treatment, (98) 83—ab
  of lungs and bronchial asthma, manual-mechanical and gymnastic treatment, (96) 540—ab
  pulmonary, and asthma, (102) 716—ab
Empyema, (50) 1185, (88) 1643

Empyema and gangrene of lung complicating typhoid in child, (41) 257
  chronic, of frontal and anterior ethmoidal sinuses, optic neuritis due to, (65) 168
  chronic, treated by hyperemia and hypertransudation, (6) 1111—ab
  diagnosis and treatment of, (29) 707
  double, with drainage of both pleural cavities, (29) 1462
  etiology of, (41) 256
  etiology, symptoms, treatment and when to perform thoracotomy, (128) 1822
  frontal sinus, surgical principles essential to cure of, (89) 2092
  in children, (19) 172—ab
  in children, blood count in diagnosis, (109) 949
  irrigation of chest in, blood pressure lowering reflexes from, (26) 1816—ab
  maxillary, caused by foreign bodies in nose, cause of, (91) 1552
  maxillary, diagnosis and treatment of (24) 261
  maxillary, drainage of, (135) 78
  of chest, Henry's rubber drainage spool for, (62) 1642
  of sphenoid sinus, radical operation for *2108
  perforation of, in ethmoidal and frontal sinuses into orbit, complicating scarlet fever, (69) 1648—ab
  pneumococcus, 20 operative cases, (181) 951
  recurring, (44) 867
  surgical treatment of, (6) 789—ab
Empyemas, recent, application of Bier cup in *572
Encephalitis, curable, subacute, in tuberculous, (66) 2008
  influenzal, simulating tetanus, (83) 176
  multiple, with meningococcus meningitis, (84) 1115
  purulent meningitis and phlebitis of sigmoid sinus, jugular bulb and internal jugular vein, complicating mastoiditis, (83) 1552
Enchondroma in tendon sheath of finger (24) 712
Endarteritis, obliterating, (2) 347, (4) 437
  peripheral, (67) 1185
Endemic funiculitis, (4) 442—ab
Endoaneurismorrhaphy, statistics of, *1607
Endocarditis, (1) 437—ab
  bacillary, infantile, (35) 2094
  chronic, management of, during stage of compensation, (9) 348—ab
  chronic tuberculous, with tubercle bacilli, (58) 1738
  experimental, negative results of attempt to induce, with bacterial toxin, (97) 956
  malignant, (117) 1111, (1) 1644
  malignant, fatal, treated with colloidal silver, *1510
  phagocytic immunity and therapeutic injection of dead bacteria in, *1571
  ulcerative, vaccine therapy in, (36) 80
Endocardium, pocket formation in, with aortic incompetence, (103) 177
Endometritis, (59) 791
  and importance of plasma cells in inflammation, (132) 359
  chronic anatomy pathology and therapy of, (58) 2193—ab
  chronic gonorrheal, successful treatment of, (35) 167
  exfoliative, membranous dysmenorrhea, (42) 1279—ab
Endometrium, early relationship of sperm to, (2) 1276
  histologic changes in incidental to menstrual cycle, (39) 256
Endoscopy of uterus (56) 1469—ab
Endothelioma and primary carcinoma of appendix, (32) 439
  of ovaries and tubes, (76) 82—ab
  of pleura (3) 2000
  of scapula with removal of entire bone, *757
Endotoxins and toxins, (115) 450
Endovesical operations simple instrument for, (111) 717
Enemas saline, continuous, in peritonitis, apparatus for, *406
  nutritive, influence of, on gastric secretion, *315
Energy and life chemical rays promotors of mode of action and therapeutic use, (13) 1275
  and matter in vital processes, (56) 1517—ab
Energy, consumption of, and interchange of gases after eating, (110) 1826
Enophthalmos, traumatic (2) 951
Enterectomy, extensive, for gangrene, (3) 1159
Enteritis, epidemic of, caused by Liverpool virus rat poison, (15) 2190
Enterocele and inversion of vagina, radical operation for after vaginal hysterectomy, (121) 1742
  origin and treatment of, (89) 1912
Enterocolitis, treatment, (172) 1282
Enteroptosis, surgical phases of, (50) 531—ab
  types of, (25) 866—ab
Enterostomy for acute intestinal obstruction, (79) 74—ab
Enucleation, osteoplastic mediotarsal, (120) 717
Enuresis, causes and treatment, (94) 1613
Enzyme proteolytic of human milk, (49) 1903
Enzymes of fibrinous exudates—effect of one enzyme on another, (27) 1184
  of human pancreatic and intestinal juice obtained through jejunal fistula, (60) 1772
  of tuberculous tissues, (26) 1184
  proteolytic, viability of, in tissues, (105) 869
Esophagus, thoracic, surgery of, and positive pressure method of artificial respiration *805
Eosinophilia and trichinosis, (110) 78—ab
Epicondyle of femur, typical fracture of (46) 2095
Epidemic among cats micro organism causing, (61) 1469
  house, of diphtheria, toxic nervous affections following, (80) 1470
  of enteritis caused by Liverpool virus, rat poison, (15) 2190
Epidemics, diphtheria, and serotherapy, (70) 631—ab
  in Guam, history of, (45) 1108
Epidemiology and bacteriology in fight against typhoid, (58) 416
  of plague, insects in (24) 628—ab
Epididymis and testicle, indirect treatment of disease of, (20) 1554
  motility of spermatozoa in, *1424
Epididymitis, gonorrheal, (95) 77—ab
  gonorrheal, acute, operative treatment of, (15) 2001—ab
  orchitis and vaginalitis from sporotrichum beurmanni, (43) 1737
Epileptic Institute Company, *1860
Epileptics, transitory disturbances of consciousness in, (56) 1552
Epiglottis cartilage, retrogressive changes in, and their consequences, (135) 1043
Epilepsy and eyestrain, (112) 78, (150) 171
  and migraine, thyroid extract in, (78) 625—ab
  bitemporal hemianopsia after, subsidence of, (71) 1824—ab
  hydrocephalus, and tumors, puncture of corpus callosum in, (110) 1042—ab
  from reflex causes, in private practice, (16) 622—ab
  in private life, dietetic and drug treatment of, (64) 954
  idiopathic, complicated by motor aphasia and diplegia, *1778
  idiopathic, with paralysis, due to germ? (17) 73—ab
  menstrual reflex, hysterectomy for, (127) 1742—ab
Epilepsy, ophthalmic migraine and, *480
  surgical treatment of, (90) 1650—ab
  traumatic, anatomic findings in, (99) 1472—ab
  treatment of, (146) 171
  treatment of, with borax, (91) 1825
  voice sign in, (10) 1729—ab
Epipharynx, primary cancer of, (64) 1280
Epiphysis, lower, of tibia, fracture of (3) 1460
Epithelial tumors of skin and exposed mucous membranes (86) 710
Epithelioma, non cornified superficial, (73) 1648
  of heel, (44) 263
  of liver with cirrhosis, (120) 1384—ab
  of penis, ablation in one piece of, and its lymphatic territory, (52) 1738—ab
  of tar and asphalt workers, (22) 1038
  of pharynx, total extirpation of, with permanent esophagostoma, (3) 1815—ab
Epithelioma, primary, of maxillary antrum, (88) 441
  primary, of vulva, (115) 1383
  radium bromid in, *894
  squamous celled, (4) 1638
  x rays in, *1761
Epitheliomas of skin, unusual, *1398
Epithelium, atypical pavement, in cervix uteri, (52) 690
  ciliated, of respiratory organs, physiology and pathology of, (62) 2096
  embryonic, resistance of, to freezing with liquid air, (55) 2003—ab
  of Fallopian tubes in man and animals structure and functions of, (82) 2098
  of vagina, transplantation of, to cure erosions in portio vaginalis, (140) 1117
Epitympanum, contour and contents of, in relation to suppurative diseases, (58) 1280
Epizootic abortion biology of bacillus of (36) 712
Epulis pathology and treatment of, (91) [illegible]
Equilibrium, static and dynamic, or 912
Ergot, fluidextract of, physiologic [illegible]
  uses in cases other than obstetrical, (19) 348—ab
Erosion, recurrent, traumatic of cornea due to lachrymal stricture, (118) 1905
Errors useful, old doctrines, (36) 797
Eruptions, bullous in children, (22) 1820
  eczematous and bullous, isolation of Klebs Loeffler bacillus in (25) 1820
  scarlatiniform, differentiation from scarlet fever (22) 2186
Erysipelas (55) 264—ab
  and scarlet fever (115) 1651—ab
  bacterial treatment of, (13) 1183
  in new born, (38) 629
  magnesium sulphate solution in, (91) 259—ab
  opsonic index in (26) 256
  primary, of pharynx, *316
  three signs for diagnosis of, (25) 1736—ab
  treatment of, (13) 348 (9) 794—ab
Erysipeloid of Rosenbach, (48) 167
Erythema figuratum perstans, *1936
  multiforme with visceral lesions, (4) 1031
Erythrodermia desquamativa, (22) 536—ab
Erythromelalgia (122) 2012, *2157
  Raynaud's disease, and allied conditions, in relation to vascular disease of the extremities, (30) 1902—ab
Esmarch Silvestri technic, modifications in blood in preventive hemostasis with, (125) 178
Esophagoscope and bronchoscope, for location and removal of foreign bodies, (132) 1734
  as diagnostic and therapeutic aid in esophageal obstruction, (14) 622—ab
  bronchoscope and gastroscope, use of, (16) 790—ab
Esophagoscopy, (23) 172 (24) 348, (24) 439, (178) 951, (139) 1731
  and bronchoscopy, (102) 793
  bronchoscopy and laryngoscopy, (26) 1467
  results of, (49) 1389
  simplification of, (72) 1738
  technic of, (114) 177
  tracheobronchoscopy and gastroscopy, (19) 622
Esophagostoma, permanent total extirpation of lower pharynx for epithelioma, with, (3) 1815—ab
Esophagostomy and resection of esophagus and lesser curvature of stomach following osteoplastic resection of costal arch, (33) 1730
Esophagus and lung, fistula between, (66) 1114—ab
  and stomach, bismuth in diagnosis of, conditions of, (16) 1283
  and stomach, operations on, pathologic conditions and results of, (17) 1283
  congenital atresia of, with esophagotracheal fistula, etiology of, (105) 177
  dilatation of, dietetic treatment in, (16) 255
  foreign bodies in, (35) 1555, (125) 2197—ab
  larynx and trachea direct examination of, (25) 1467, (3) 2005
  malformation of, congenital, (54) 76
  multiple cysts in, (77) 2007
Esophagus, obstruction of, diagnosis of (61) 1465—ab
  obstruction of, esophagoscope as diagnostic and therapeutic aid in, (14) 622—ab
  obstruction of, malignant, (20) 1190
  operation on low diverticulum in, (107) 541
  pathology of mucosa of human, (131) 1043
  resection and plastic operations on, especially for carcinoma, (53) 1556
  stenosis, caustic of, cured by esophagoscope, (28) 712
  stenosis, functional, at cardia, (61) 168
  stenosis of, further aid in diagnosis of, (23) 1640—ab
  stricture of, (76) 792
  trachea and stomach, direct inspection of, (18) 2186
  traction diverticulum of, pathogenesis of, (106) 177, (97) 266
  x ray examination of, (18) 1901—ab, (16) 2090
Ether, administration of, *1574, (14) 1639—ab
  administration of, by open method, (14) 711
  and chloroform, anesthesia by, (14) 789, (105) 1110
  and chloroform, value of warming vapor of, (67) 624
  anesthesia, (132) 793
  apparatus for administration of, (67) 1280
  freezing microtome, compact, (126) 1553
  prevention of vomiting during first whiffs of, (118) 717—ab
Ethics (99) 1377
  medical, duties of physicians, (189) 171
  professional, adding grain of salt to, (165) 950, (119) 1111
Ethmoid, antrum and sphenoid, submucous resection of lateral nasal wall in chronic empyema of, *1136
  cells at birth and their development during fetal life (14) 1799
  disease, ocular symptoms of, (125) 1905
  perforation of inner corner of eye and involvement of maxillary antrum, *1325
Ethyl chlorid for general anesthesia, (43) 173—ab, (59) 446, (51) 693, (29) 2089—ab
Eucalyptol injections in tuberculosis, (64) 1557
Eupraxia, relative, with right hemiplegia, (94) 1115
Eupyrexia, (10) 1639—ab
Europe, criminal procedure in countries of, (16) 2001—ab
  postgraduate study in (110) 1466
Evil tendencies in medicine and surgery, (18) 2234—ab
Evolution of preventorium, (28) 444—ab
Examination, careful, in diseases of rectum with proper instruments, (93) 1036—ab
  external antepartum, (29) 1033
  physical, (47) 1551
  physical, routine, value of, *2078
Exercise, active, peripheral action of, on circulatory disturbances with fat heart and allied conditions, (82) 1559—ab
  and rest in tuberculosis, (1) 2233—ab
  mechanical, and cold, influence of, on sugar excretion in phloridzin glycosuria, (71) 350—ab
  muscular, and oxygen as form of treatment, (7) 1554—ab
  therapy, Frenkel's, improvement of peripheral centripetal neuron in tabes by, (81) 955—ab
  violent, important surgical injuries brought on by, (3) 412
Exercises, auxiliary, and carbonated mineral baths, treatment of chronic diseases of the heart by, (77) 1110—ab
Exophthalmic goiter, (134) 267—ab, (90) 1381—ab, (1) 530, (23) 1736
  action of lecithin in, (43) 1464—ab
  and psychic factor in, surgery of thyroid, (75) 1375—ab
  and Raynaud's disease, (128) 178—ab
  and thymus, (63) 256—ab
  and thyroidism, blood findings in, (70) 1558—ab
  Charcot type of, (27) 1730
  development of knowledge of, *1119
  diarrhea in, (119) 266—ab
  diphtheria antitoxin in, (60) 1815

Exophthalmic goiter, examination of blood in, (68) 1286—ab
  fatal asystole in, (52) 538—ab
  from medical standpoint, (1) 1276—ab
  hereditary, (101) 1116—ab
  importance of persisting thymus in, (111) 1289—ab
  in man aged fifty-two, hypertrophy of mammæ in, (96) 956
  medical and surgical treatment of, (48) 2090—ab
  medical treatment of, (51) 1185
  palsy of extraocular muscles in, (99) 442
  partial thyroidectomy in, (89) 1110—ab
  pathology and treatment, (4) 1189, (35) 1821
  plus surgical lesions, (50) 1465—ab
  prognosis of operative treatment of, (59) 1648—ab
  surgical and anatomic study of, (156) 360
  surgical aspects of, and psychic factor, (100) 260—ab
  surgical treatment of, (70) 714—ab, (35) 873, (102) 1819, (16) 2006
  treatment of, (76) 539—ab, (160) 950, (2) 1183—ab, (40) 1641, (173) 1904—ab
  x-ray in, (139) 1474—ab, (3) 1638—ab, (28) 1907
Exophthalmos as complication of accessory cavity disease, (44) 1374
  of three years' duration cured by removal of middle turbinate, (134) 1037
  tachycardia and tremor following extirpation of tuberculous glands in neck, (27) 2186
Exostoses, gonorrheal, of os calcis, (13) 1371
Exostosis and artificial drum membrane in adults, (67) 792
Ex-patients, suggestions to, (138) 260
Experimentation, animal, passive hyperemia in, (73) 264—ab
Expert testimony and alienist, (3) 530—ab
  testimony, supposed evils of, (2) 530—ab
Extension, transverse and longitudinal, easily improvised apparatus for, (73) 1287
  without use of weights, for fractures, (17) 790—ab
Extrasystole, (24) 795
Extremities: See also Arms and Legs
  crushing injuries of, (136) 170
  functional paresis of, new sign of, (23) 2236—ab
  mutilated, conservative treatment of, (98) 1904
  trophic lesions occurring symmetrically on, (8) 2234
  vascular diseases of, Raynaud's disease, erythromelalgia, and allied conditions in relation to, (39) 1902—ab
Exudates and transudates, differential diagnosis between, by Rivalta test, (137) 718—ab, (94) 956—ab
  and transudates, differentiation of, (121) 1384
  fibrinous, enzymes of, effect of one enzyme on another, (27) 1184
Exudative *diathesis,* (83) 533—ab
Eye: See also Special Structures
  affection from artificial fertilizer, (129) 1117
  affections of lachrymal glands and their treatment, (110) 449
  affections, phlyctenular, and tuberculin, (103) 1383—ab
  affections, serotherapy in, (81) 539
  and brain complications of anemia and relationship to thrombosis, (26) 1378—ab
  and cardiovascular disease, *212
  and nose abnormalities, reflex neuroses arising from, (12) 1815—ab, (72) 2189
  and skin pigment, staining technic for showing, and its colorless preliminary stages, (114) 1473
  aniridia, case of, (136) 1037
  artificial, restoration of the conjunctival cul-de-sac for insertion of, *1070
  atropin solution in, unusual constitutional effects of, (153) 171
  blindness following injection of protargol in lachrymal sac, (101) 442
  cataract extraction, (39) 445—ab
  cataract extraction, after-treatment of, (135) 442
  ciliary region of, diagnostic value of tenderness in, (63) 441
  clinics, European, (142) 1820
Eye, commoner inflammatory diseases of, and their diagnosis, (79) 1818
  complete congenital opacities of both cornea, (50) 867
  complete peripheral capsulotomy of, (137) 1037
  complications in disease of nasal accessory sinuses, surgery of, *299
  complications of epidemic cerebrospinal meningitis, cultivation of meningococcus from, (101) 1466
  complications of pregnancy, *204
  complications, serious, with sinusitis, (109) 1819
  conditions in public schools, (5) 789—ab
  conditions, serious, immediate treatment of, by general practitioner, (2) 789—ab
  consanguinity and disease of, (111) 1187—ab
  corneal diseases, (15) 73
  crises in tabes, (118) 1474—ab
  cycloplegics in refraction, (99) 793
  cytoreaction to tuberculin, beginning of, (121) 1042
  dacryocystitis due to typhoid *bacilli,* (35) 946
  defects associated with general disease, (16) 952
  department of St. Luke's hospital and Northwestern Medical School, operations in, (55) 791
  dermoid tumor of conjunctiva, (12) 438
  developmental deformities of crystalline lens of, *1051
  diagnostic importance of inequality of pupils of, in general paralysis, (39) 953
  diaphanoscopy of, (133) 1188
  diaphoresis in internal affections of, (120) 1037
  dionin in diseases of, (95) 1819
  disease, increasing importance of tuberculosis as cause of, (120) 1282
  disease, tuberculosis, diagnostic and therapeutic value of tuberculin in, (121) 1282
  disease, vibratory massage in, (134) 1188
  diseases, (40) 946
  diseases and symptoms, in relation to disability, (115) 1466
  diseases, influence of diathesis on causation and treatment of, (19) 2190
  diseases, opsonic method and vaccine therapy in, (38) 80
  diseases, relation of disease of accessory nasal sinuses to, (25, 26) 1283
  diseases, serotherapy in, (29) 1283
  diseases, vision in, (136) 442
  ear, nose and throat conditions, faulty effect on mental development of school children of, (88) 1466
  ear, nose and throat, and expert testimony and medical jurisprudence, (111) 1377
  ear, nose and throat work in Vienna, (116) 1733
  ear, nose and throat work, recent advancements in, through bacteriotherapy, (68) 1732
  enucleation, indication for, and its substitutes, (78) 441
  etiology and treatment of chronic conjunctivitis, (75) 447—ab
  external muscles of, importance of motor disturbances in, for localization of focal brain affections, (84) 447—ab
  foreign bodies in, (79) 441, (56) 1375
  extirpation of lachrymal sac, (7) 442
  fundus of, examination of, by transillumination of orbit from nasopharynx, (76) 356—ab
  glioma of retina of, enucleation and recovery, (140) 1037
  globe of, migratory ophthalmia and *injuries of,* (122) 534
  hemorrhage in front of retina, (67) 1818
  hemorrhages of, and high arterial pressure, (104) 1733—ab
  hygiene of, in school children, (44) 623—ab
  import of opsonins in, (38) 946
  in diagnosis of systemic diseases, (53) 440
  infection with diseases of sinuses contiguous to orbit, (112) 1905
  injuries of, by foreign bodies, (114) 534
  injuries, penetrating, recent, by pieces of steel, treatment of, (119) 1037
Eye, inner corner of, ethmoidal perforation of, and involvement of maxillary antrum, *1325
  isolated paralysis of external rectus muscle of, with otitis media, (74) 539
  kerato-conus, case of, (136) 1037
  lens, displacement other than traumatic, *492
  lens, influence of ultra-violet light on, (142) 170
  manifestations of disseminated sclerosis, (80) 1036
  manifestations of organic diseases of brain and spinal cord, (97) 1643
  movements, reflex, as a differential sign in ocular paralyses, (113) 1188
  neuroretinal lesion of, subtemporal decompression in chronic nephritis with uremia of, (31) 1902—ab
  nutrition and metabolism of, (125) 85
  obstruction, (35) 629
  orbit, bullet wounds of, and its surrounding parts, (98) 442
  opacification of cornea following cataract extraction, *296
  palsy of extraocular muscles of, in exophthalmic goiter, (99) 442
  physiology and pathology of play of pupils, (62) 954
  piece of steel in, for seventeen years, (154) 950
  piece of steel weighing less than milligram removed from, with normal vision, (102) 1466
  probable congenital circumscribed defect in chorioid with anomalous pigment and vascular arrangement, (120) 352
  prognosis of injury of cornea, (123) 450—ab
  protective influence of iris in perforated wounds of cornea of, (138) 1037
  pupil, general pathology of, (122) 352
  pupils, convergent reaction in reflex immobility of, (56) 630—ab
  rare case of persistent pupillary membrane, (130) 1282
  reaction to tuberculin, (130) 78, (68) 82—ab, (170) 87, (13, 14) 166, (22) 348, (58) 350—ab, (114) 352, (30) 354, (16) 438—ab, (30) 537, (120) 870, (107, 108) 877, (88, 90) 540—ab, (115) 634, (32) 639—ab, (120) 870, (107, 108) 877, (17) 952, (95) 956, (8, 9, 10) 1031, (102, 147) 1037, (55) 1039, (41) 1112, (86) 1115, (47) 1192—ab, (93) 1195, (99) 1196, (82) 1376—ab, (84) 1381, (104) 1644, (118) 1651, (20) 1736—ab, *1756, (28) 1816—ab, (60) 1818, *1836, (88) 1904
  reaction to tuberculin and allergy test, (87) 176
  reaction to tuberculin, dangers of, (90) 447, (109) 717—ab, (11) 871—ab, (141) 1043, (98) 2011—ab
  reaction to tuberculin in cattle, (22) 1184
  reaction to tuberculin in guinea-pigs, (16) 1901—ab
  reflex disappearance of radial pulse during pressure on eyeball, (113) 2011
  refraction in Indians fresh from plains, *308
  refractive and muscular condition of, and headaches, (159) 1188
  retina, treatment of detached, (89) 77
  right, sarcoma of, (119) 352
  sarcoma of chlorid, (124) 1188—ab
  sarcoma of ciliary body showing unusual manifestations of malignancy, (126) 1188
  serious condition of, frequently first seen by general practitioner, immediate treatment of, (2) 789—ab
  siderosis of, caused by piece of iron-scale which x-ray failed to locate, (100) 1466
  sockets, contracted, restoration of, (121) 352
  suggestions of pupil of, in general diseases, (38) 1902—ab
  surgery, cosmetic, (109) 534
  symptoms of brain tumors, (85) 1036—ab
  symptoms of cerebral concussion, contusion and compression, (85) 1466
  symptoms of ethmoid disease, (125) 1905
  therapeutics, value of *morphin* derivatives in, (18) 531, (139) 1037—ab, (71) 1643—ab
  throat, nose and accessory cavities, affections of, (77) 1471—ab
Eye, to clear cornea of opacity from metalic caustics, (76) 447—ab
  transillumination of, (141) 170—ab
  traumatic rupture of, and defects of Descemet's membrane, (35) 349
  treatment of immature cataract in, (7) 951
  tuberculosis of, (152) 1037, (122) 1282
  typhoid toxin reaction, (89) 540—ab
  unilateral congenital fistula of lachrymal sac of, (34) 946
  unilateral optic atrophy, with hemiplegia, (10) 79
  zonula ciliaris and its relation to neighboring structures, (123) 352
Eyeball, anterior half, resection of, after injury, (87) 876
  contusion of, with reference to traumatic aniridia and aphakia, (127) 1282
  injuries, commoner forms of, (83) 1036
  penetrating wounds of, better prognosis in, *312
  pressure on, disappearance of radial pulse during, (113) 2011
  treatment of commoner penetrating wounds of, (90) 1110
Eyelid, accessory, (105) 1614
  lower, cicatricial ectropium of, **operation for,** (117) 352
  simplification of De Grandmont's **operation for ptosis of,** (84) 2004
  wire elevator, for prevention of loss of vitreous humor in extraction of cataract, (180) 171
Eyelids, granulated, complications and treatment, (76) 2091
  streptococcus infection of, treated by antistreptococcus serum, (15) 443
Eyes, adjustable lens for oblique *illumination of,* (14) 2000
  and tobacco, (70) 76—ab
  balance of, and errors of refraction bearing on general health, (33) 349
  iron splinters in, (140) 718
  treatment of, for headache, (45) 2007
Eyestrain, (66) 2188
  and epilepsy, (113) 78, (150) 171
  as cause of headache, (64) 1035
  attitude of general practitioner toward, (24) 1278
  nervous dyspepsia due to, (24) 623

F

Face and head, growth of, (95) 1472
  and neck, spasmodic movements of, elements of diagnosis between, (20) 1730
  and nose, non-specific ulceration of bones of, (62) 1465—ab
  and skull, symmetry of, and torticollis, (83) 1194
  localized emaciation of, (91) 447
  plastic surgery of, (139) 870
  reconstructive surgery of, (125) 442
Fallopian-tube and ovary, hernia of, complicated by strangulation of intestine, (11) 944
  endothelioma of, (76) 82—ab
  ileus from constriction of intestine by, (81) 632
  inflammation of, treated by operation, (91) 1613—ab
  inflammatory proliferation of mu*cosa in,* (119) 1712
  obliteration of, after resection, (31) 712
  primary carcinoma of, (26) 952
  removal of, by vaginal route, (91) 358—ab
  Vater-Pacinian corpuscles in, (135) 359
  right, and appendix, abnormal position of, *1598
Fallopian-tubes and ovaries, conservative surgery of, (135) 1111, (66) 1465—ab
  and ovaries, operations on, (78) 259—ab
  and uterus coexistent with testicles in tunica vaginalis, (63) 81
  and uterus, tuberculous process in, and myoma, (96) 1826—ab
  hypoplasia of, and extrauterine pregnancy, (138) 2198
  infection of, (154) 1037
  old pus, special structures in, (63) 1380
  pus in, (23) 1107—ab
  structure and function of epithelium of, (82) 2098

Family diseases premature physiologic senescence localized to certain organic systems, (10) 443—ab
Faradic stimulation calibration of inductorium for break shocks in, (69) 350—ab
  stimulation variable factors involved in (69) 350—ab
Fascia Pfannenstiel's transverse incision of, advantages of, (82) 875
Fasting, therapeutic, in typhoid, *191
Fat, absorption of, under pathologic conditions in man and animals, (114) 1826
  digestive disturbances in infancy due to overfeeding of, (175) 930
  high percentages of, in infant feeding, *1219
  importance of different proportions of, in breast milk in respect to thriving of infant (56) 874
  in infants, metabolism of, (92) 1036
  increase of proportion of, in breast milk during ingestion of fat, (55) 873—ab
  subcutaneous necrosis of, (130) 1471—ab (140) 1743
Fatness influence of, on susceptibility to Caisson disease, (35) 2190—ab
Faucial pillars congenital detachment of, and isolation of palatoglossus muscle, (132) 870
Favus (11) 73
  universal, (66) 798
Feces bacillus longus in, and its significance, (95) 176
  examination of, as aid to diagnosis, (37) 1108
  examination of as routine procedure, (69) 1035, (148) 1188
  precipitin test for biologic research on (110) 2011
  result of 300 examinations of, for amebas, (46) 1108—ab
Fee bill why Pierce County, Wash., should abolish, (117) 78
  bills medical, (108) 793—ab
Feeblemindedness, and alcohol, (24) 1776
Feeding, Infant. See Infant Feeding
  laboratory and range of resources it provides (86) 1376—ab
  of tuberculous patients (151) 78
  the sick, principles of, (80) 955—ab
Feet See also Foot
  painful, diagnosis of (46) 791—ab
Fehling's solution, rapid and precise determination of terminal reaction in titration of sugar with, (93) 1988—ab
  saccharometer for use with, *496
Fellow, other, (103) 1037
Felon milkers (117) 717—ab
Female See Woman
Femur and pelvis fractures trauma of kidney and impaction of pubic arch in bladder, (87) 948
  epicondyle of, typical fracture of, (46) 2095
  fracture of, (76) 1648
  fracture of, in infant (92) 1643
  fracture of in new born, (15) 79—ab, (16) 711—ab
  fracture of neck of in adults operative treatment of, (38) 2090—ab
  fractures of shaft of operative treatment of (39) 1379—ab
  fracture of shaft of, splint for (69) 2003
  fracture of shaft of treated by open method, (68) 2003—ab
  fractures of, treatment of, (113) 260 (59) 2090—ab
  fractures true, of neck of in young (76) 1114—ab
  head of and iliopsoas, abscess between (40) 2111—ab
  sarcoma congenital, of, cured by operative and x-ray treatment, (70) 1986—ab
Ferment action and immunity, (74) 875
  activity of gastric contents, estimation of, (3) 710—ab
  proteolytic leucocyte, importance of in pathologic physiology, (90) 909—ab
  proteolytic leucocyte, influence of human blood serum on, (103) 84
  reversions in metabolism, (25) 1816
Fermentation in stool, apparatus for determining (168) 87
  intestinal, dyspepsia from (65) 174—ab
Ferments of digestive canal (41) 2192
  proteolytic, of large lymphocytes in acute leukemia (21) 1184
  lactic as therapeutic agents, (12) 1565
Ferments secretion of, in stomach and pancreas action of hydrochloric acid on, (71) 875
  soluble (34) 796
Ferricyanid method for determining presence of gas in blood, (99) 83
Fertilizer, artificial, eye affection from, (129) 1117
Fetus and infant, shape of ureters in, (63) 788
  bronchiectasis in, (50) 81
  death of, in labor, (92) 77—ab
  delivery of decapitated head of, (33) 2001
  ethmoid cells in at birth and their development during life of, (14) 1729
  generalized edema of, (6) 1038
  living, procedure suitable for cases of extrauterine pregnancy with, (57) 1375
  ophthalmia of, (78) 631
  relation between weight and age in *919
  retrouterine sensory corpuscles in, (19) 81
  stab wounds of, in uterus, (56) 791—ab
Fever, hysterical, (98) 1826
  intermittent or prolonged, with tertiary visceral syphilis, (60) 1193—ab
  nature and treatment of, (17) 531
  obscure, in infancy and childhood, (3) 347—ab, (86) 869—ab
  protracted in syphilitic liver affections, (66) 1193—ab
  puerperal (53) 624, (104) 1037—ab, (92) 1038
  puerperal, diphtheritic genital infection simulating, *965
  puerperal, prevention of, (112) 1473—ab
  relapsing, complement binding in, (79) 539
  Rocky Mountain spotted (7) 2088
  Scarlet See Scarlet Fever
  seven day, of Indian ports (26) 354
  three day, virus of, (63) 1823—ab
Fevers continued, (125) 793
  continued, of Philippines, (81) 169
  differential diagnosis of, (2) 1282—ab
  of intestinal origin in children, (140) 1906
  spirillar, recent work on (17) 865
Fibers connective tissue, in mucosa of uterus (54) 1646
  elastic, improved technic for determination of, (148) 1044
Fibrils contractility of, relation of ions to (66) 350
  epidermal, in classification of malignant growths (101) 869
Fibrillation, auricular, paroxysmal tachycardia and auriculoventricular extrasystoles, (81) 2004
Fibroelastomyxoma of heart and casuistic study of heart tumors especially myxomas, (103) 1913—ab
Fibroid degeneration of appendix, (105) 1037
  solid of ovary obstructing delivery, (13) 2190
  symptomless uterine, conservative surgeon and, *972
  uterine, general pathologic conditions with (48) 2188—ab
Fibroids complicating pregnancy, labor and puerperium (74) 258
  hysterectomy abdominal, for, in London (11) 443
  of uterus operative and nonoperative, (7) 1815—ab
  relation of carcinoma of uterus to, (2) 1461—ab
  uterine, showing peritheliomatous changes late recurrence after operation (12) 2190
Fibrolysin in cicatricial pyloric obstruction, (3) 1111
Fibroma, calcified, of orbit, (101) 1643
  of abdominal wall, (45) 75, (129) 1553 (126) 1742
  of skin, multiple, in pregnant woman, (99) 1876
  of trachea, (132) 78, (39) 440
  ulcerated in anterior wall of vagina, (54) 2007
Fibromata, uterine, pregnancy, complicated by, in hemiplegia, (134) 442
Fibromyoma of round ligament, (57) 1465—ab
Fibromyomata and vascular system, (45) 1379
  of uterus and anemia, *1395
Fibula and tibia, compound comminuted fracture of treatment, *2057
Filariasis as it appears in Queensland, (34) 1112
  nocturna, (55) 1642—ab
Filtering beds, properly constructed, (9) 941
Filtration system, intermittent continuous, (152) 1906
Finger, enchondroma in tendon sheath of, (24) 712
  joints, congenital familial dermatogenic contracture of (82) 1825
  plethysmography and turgosphygmography, (53) 2096—ab
Fingers congenital ankylosis of, with brachydactylia, (81) 1287
  fractured, treatment of, (80) 175
  fusion of, with hemimelia, (45) 355
  gangrene of (78) 710
  infectious ulcerations of, (61) 446—ab
First aid courses what should be taught regarding the dangers of, infectious diseases in, (67) 356—ab
  package, improved, for field, (123) 267
  packets, individual, of principal armies of world, (98) 1733
Fishberries poisoning from, used as abortifacient, (101) 2099
Fistula anal, (75) 2189
  anal, advantage of elastic ligature in cases of, (29) 1107—ab
  between lung and esophagus, (66) 1114—ab
  esophagotracheal, congenital atresia of esophagus with, etiology of, (105) 177
  in ureter, atrophy of kidney with, (67) 1739—ab
  jejunal enzymes of human pancreatic and intestinal juice obtained through, (60) 1732
  pathology of, between stomach and colon (97) 448—ab
  of labyrinth caloric nystagmus test in (108) 1389
  pancreatic secretion from and influence on it of antidiabetic diet (68) 1980—ab
  pancreatic physiology and pathology of secretion of, (81) 1559—ab
  rectovaginal, imperforate anus with, *670
  unilateral congenital, of lachrymal sac (31) 946
  ureterovaginal complete and incomplete differential diagnosis (61) 709—ab (88) 948—ab
Fistulas, diagnosis and treatment of, (60) 76—ab
Fistulous tracts tuberculous, treatment of, (68) 709—ab
Fits uncinate group of, and the cerebral centers for taste and smell, *879
Flatfoot, (33) 1551—ab
  contracted treatment of, during sleep, (118) 1827
  facts for assimilation and dissemination (11) 1815
  hyperemia in (75) 539
  value of Gleich's operation in, (54) 1 56
  shoe for, (117) 84
Flea how it clears itself of plague bacilli (28) 628—ab
  killing power of certain chemicals, (44) 1112
Fleas, bionomics of, (27) 628
  on rodents and men on Pacific Coast, *495
Flexion cause of, in hip disease, (107) 77
Flies as carriers of bacillus typhosus, (12) 1735
  as carriers of contagion in yaws, (95) 712—ab
  typhoid due to (6) 2088—ab
Florida, proliferating cestode larva in man in, (98) 1110—ab
Fly, house, as agent in dissemination of infectious diseases, (60) 1108—ab
Fluoroform treatment of whooping cough by, (136) 1734
Food adulterations and health (134) 260
  Congress, First International, impressions of, (27) 1554
  and air passages foreign bodies in, bronchoscope and esophagoscope for location and removal of, (132) 1734
  eaten too rapidly, overdistention and overwork of stomach, from (43) 713—ab
  in chronic nephritis, (104) 84
  infant reliability of sterilized and pasteurized milk as, (149) 1906
  infantile affections resulting from, (123) 1652
  inspection at ports of entry, (21) 871
  pure and drug inspections (69) 2101
  values practical application of in nutrition of children, (79) 1156—ab
Foods and medicines, proprietary, state regulation of, (13) 1111
  energy value of, (77) 1036
Foot and arms, multiple and recurring patches of gangrene on, (44) 173—ab
  backward dislocation of, and extension dressing with flexed knee, (121) 150
  clonus apparatus for automatic registration of, (126) 1914
  disabled in military service and diagnosis by skiagraph, (125) 9 0
  lipoma of, diffuse painful, (8) 1466
  perforating ulcer of, negative results of stretching nerve for, (140) 267
  tendon sheaths of, in relation to tendovaginitis and perimysitis crepitans (70) 2197
Forceps, (56) 1732
  axis traction, vs telephone and motor car, (34) 1555—ab
  high, for high transverse facial presentation, (128) 267
  laryngeal, (82) 625
  nasal septal, (96) 442
  removal of retained fetal membranes, (63) 1647
  reverse antrum, with sphenoid punch attachments *1233
  tonsil, (154) 171, *1696
Foreign bodies and cancer of intestine, (57) 2008—ab
  bronchoscope and esophagoscope for location and removal of, in air and food passages, (132) 1734
  extraction of, (8) 442
  in abdominal cavity, (28) 1033 (68) 1035
  in esophagus, (35) 1555, (126) 2197—ab
  in eye diagnosis and treatment of, (79) 141, (56) 1375
  localization of, by new method, (23) 1283
  in nose as cause of maxillary empyema, (91) 1552
  in trachea and stomach (11) 1549
  migration of, (103) 1259—ab
  of irregular shape in esophagus, extraction of, (49) 1380
  syringe for removal of, from ears, (63) 1193
  removal of, from trachea of child, (107) 1552
Formaldehyd, antiseptic and germicidal properties of, and action on toxins, (79) 1466
  derivatives, fate and actions in body *818
Fossa, iliac, method of partitioning off after complicated appendicectomy, (50) 1285—ab
Foster Milburn Co., vs Col Jack P Chinn, history of case of, (44) 1185—ab
Fowl muscles of, action of barium chlorid on, (45) 1817
Fowls, body weight and egg weights in, results of ovarian transplantation on, *1314
  Cypriote, spirochetosis of, (24) 354
Fracture and dislocation of neck at sixth cervical vertebra in man of sixty, recovery, (10) 1815
  and dislocation of second cervical vertebra (8) 2185
  and refracture of patella, treatment, (29) 1736—ab
  chauffeur's (43) 1379—ab
  Colles' malpositions of ulna in, (118) 78
  compound comminuted of tibia and fibula treatment of, *2057
  incomplete, laceration of tubercle of tibia or defective growth? (52) 1822
  isolated, of scaphoid bone, (81) 1114
  of arm above condyle treatment of, (73) 2193
  of arm, treatment of, (119) 78
  of atlas, isolated comminuted, (143) 268
  of base of skull with prolonged unconsciousness (146) 1037
  of clavicle, new dressing for, (104) 1110
  of clavicle, treatment of, (7) 2233
  of clavicle unusual (11) 791
  of distal phalanx from tearing off of extensor tendon, (60) 174
  of eminentia capitata (33) 1640
  of femoral shaft, splint for, (69) 2003
  of femoral shaft treated by open method, (68) 2003—ab
  of femur, (76) 1648
  of femur, improved Hodgen splint for, (37) 167—ab
  of femur, in new born, (15) 79—ab, (16) 711—ab
  of femur neck in adults operative treatment of (38) 2090—ab

Fracture of femur, neck in young, (76) 1114—ab
  of femur, treatment of, (113) 260, (39) 2090—ab
  of fingers, treatment of, (80) 175
  of humerus, treatment of, (35) 74—ab
  of humerus, with dislocation, operative treatment of, (33, 34) 74—ab, (58) 441, (65) 624
  of jaws, (11) 255
  of larynx, (102) 169
  of leg, treatment of, (131) 1111
  of long bones, (55) 1185—ab
  of long bones, extension treatment of, (37) 1190—ab
  of long bones, necessity for end-to-end apposition in, (31) 1737—ab
  of *metacarpal* bones, (30) 1736
  of neck of radius, (103) 1644
  of nose, depressed, operation for, (21) 1467
  of os calcis, (13) 1729—ab
  of patella, (106) 949, *1944
  of patella, treatment of, (72) 169—ab, (62) 792—ab
  of patella, ununited, comminuted, removal of bone for, (81) 533—ab
  of pelvis and femur, trauma of kidney and impaction of pubic arch in bladder, (87) 948—ab
  of radius, (99) 77—ab
  of ribs, rupture of lung, and pneumohemothorax, (34) 1378
  of skull, bursting, decompressive operations in, (30) 74
  of skull, *compound* comminuted, (102) 1643
  of skull, injuries of cranial nerves from, *271
  of spine, treatment of, (88) 351
  of tibial spine, (67) 441
  supracondyloid, *of humerus, reduction of, (40) 1372—ab*
Fractures, ancient, some lessons from, (11) 1038
  and depressed deformities of nose, treated by combined bridge and intranasal splints, (98) 1552
  and dislocations, treatment of, (106) 1650—ab
  and their consequences, operative treatment of, (80) 1040—ab
  compound comminuted, of all maxillary bones, *1697
  delayed union in, (17) 1278, (60) 1375
  extension without use of weights for, (17) 790—ab
  mobilization and massage in, (11) 1554—ab
  obscure, diagnosed by x-ray, (26) 439, (21) 622, (24) 790—ab, (19) 1462, (21) 1640
  of bones of forearm, direct and internal splintage by operation in, (37) 1379—ab
  of femoral shaft, recent, operative treatment of, (39) 1372—ab
  of ribs, treatment of complications from injury of lungs in, (60) 1556
  of vertebræ, (112) 2195
  operative treatment of, (61) 713
  severe traumatisms and, (55) 257—ab
  strain, of knee, (44) 791
  treatment of, (15) 172, (116) 793
  treatment of, by direct internal splintage, (37) 1379—ab, (143) 1734, (27) 1736
  x-ray diagnosis of, (1) 1105—ab, (54) 1465
Frambesia tropica, (116) 260
Frame, metal, for veil to wear while operating, (119) 1827
France, admission of foreign students to medical schools, (71) 82
Francois de Paris, miracles at tomb of (14) 255—ab
Fraternal spirit, (103) 169
Fremitus, vocal, in croupous pneumonia, (97) 1559
French and German for medical students, (11) 1466
  clinics in neurology and psychiatry, (51) 1817
  surgical congress, twenty-first, transactions of, (52) 2192
  surgical congress, verdict of, on facial nuralgia, (47) 1909—ab
Fresh-air methods at home for consumptives, (14) 260
  school, (140) 260
  treatment in home as applied to pediatrics, *1505
Freund's operation: See Chondrotomy
Friction sounds and râles, physical and clinical study of, (134) 634
Frontal presentation, influence of gravity on production of, (61) 1113
Frontal sinus disease, conservative treatment of, (73) 258
Fruits, food value of, (42) 1191—ab
Fulguration: See also Cancer: Lightning treatment of
  of vital organs, (69) 875
Function, chemical regulation of, (140) 626
Fundus, capacity of extension of, and peristaltic movements of stomach, (64) 174
  desirability of ophthalmoscopic examination of, while still possible in senile cataract (91) 2004—ab
Fungus coccidioides, (37) 531

G

Galactosuria, alimentary, in jaundice, (59) 1193
Galalith *intestinal button, (61) 356*
Gall-bladder and bile channels, inflammation of, without gallstones (96) 448—ab
  and bile ducts, syphilis *of,* (59) 1903
  and biliary passages, pathologic anatomy of, (145) 1188
  cholecystostomy with recovery of pure culture of typhoid bacilli from, (37) 1640
  congenital absence of, (36) 439
  diseases, treatment of, (93) 2004
  drainage of, (95) 352
  drainage of, in chronic pancreatitis, (39) 2187
  empyema of, with stone, following *typhoid, (160) 1188*
  empyematous, primary sarcoma of, (56) 1556
  gangrene of, (37) 790
  pedicle of, torsion of, (81) 356 (52) 1192
  surgery of, (131) 626, (70) 792, (147) 1188
  surgical affections of, (71) 1109—ab
Gallop-rhythm of heart, (42) 167—ab
Gallstone affections, benign stenosis of pylorus simulating, (68) 1114
  affections, familial, (50) 174
  disease, (76) 441
  disease, importance of early surgical treatment, (37) 1551
  disease, ischochymia simulating, (60) 441—ab
  disease, medical treatment of, (21) 866
  disease, pancreatitis and, *377
  disease, symptoms of, (146) 1188
  disease, treatment of, (110) 442, (69) 709
  empyema of gall bladder with, following typhoid, (160) 1188
  factors, (28) 623
  ileus, (94) 1471—ab
  ileus, operation, recovery, (5) 1282
  operations, concrements *forming* on threads after, (98) 358
  surgery, (18) 354
Gallstones, (144) 171
  and pancreatic diabetes, (23) 2234—ab
  as etiologic factor in diabetes, (29) 623
  differential diagnosis of, (19) 1372
  inflammation of gall bladder and bile channels without, (96) 488—ab
  medical treatment of, (84) 1819
  prevention of, and cholecystitis, (9) 2088
  regurgitation a symptom of, (22) 1640
  surgical treatment of, (87) 1740—ab
Galvanotropism in bacteria, (74) 350
Games, educative aspect of, (38) 1821
Ganglia, pathogenesis of, (45) 707—ab
Ganglion, Gasserian severe trigeminal neuralgia successfully treated by excision of, (52) 1468
  Gasserian, surgery of, (128) 352—ab
  petrosal, herpes of membrani tympani due to zosteroid affection of, (35) 1108
Ganglioneuroma, (56) 713—ab
Gangrene and empyema of lung complicating typhoid in child, (61) 257
  angiosclerotic, treatment by arteriovenous intubation, (71) 631—ab
  diabetic, amputation in, (13) 789—ab
  extensive enterectomy for, (3) 1189
  in strangulated hernia, treatment of, (7) 171—ab
  limited annular, of small intestine invagination *of,* vs. resection, *472
Gangrene of extremities after pneumonia, (20) 952—ab
  of extremities complicating typhoid, (165) 87—ab
  of extremities in infant, (48) 867—ab
  of fingers, (78) 710
  of gall bladder, (37) 790
  of limbs, after ligation of large trunk vessels, (50) 797—ab
  of puerperal uterus, (45) 1279
  of rectum, apparently spontaneous, (57) 1380
  of skin in rheumatoid scarlatina, (28) 1554
  of skin, postscarlatinal, (62) 714
  presenile spontaneous, vascular lesions leading to, (40) 1902—ab
  self-inflicted, (44) 173—ab, (40) 263
  symmetrical, of legs, in infectious diseases, (116) 1914
Gargling with mouth closed, (71) 264
Gas distention, postoperative, of abdomen, prevention of, (79) 1904—ab
  ether anesthesia without complications, (41) 1372
  in *blood, ferricyanid* method for determination of, (99) 83
Gases, dosage of, in mines, (49) 2007
  interchange of, and consumption of energy after eating, (110) 1826
  stomach and intestinal, (13) 1462—ab
Gastrectasia and gastric ulcer, rôle of gastroenterostomy in, (30) 1555
Gastric-cancer, (161) 171, (15) 1901—ab
  and cancer of glands at extremities of clavicles, (4) 951
  and gastric ulcer, diagnosis between at operation, *558
  at Heidelberg clinic, 1808-1905, (77) 1287—ab
  atypical symptoms in, *1695
  early diagnosis of, and nature of carcinoma, in general, (8) 2000—ab, (71) 2189—ab
  grafted on chronic gastric ulcer, (96) 1904
  hemolytic substances in stomach content and their importance in diagnosis of, (57) 2097—ab
  primary, and microscopic metastasis in ovaries, (96) 1649
  surgery of, (74) 2097
  typical localization of metastasis of, (86) 1650—ab
Gastric crises and lightning pains, arterial pressure in tabes dorsalis and its modification under influence of, (53) 1738—ab
  crisis simulating stenosis of pylorus, (67) 264
  diseases, general therapeutics of, (4) 789
  diseases, non-malignant, preoperative treatment of, (28) 1736
  disturbances, *functional,* and lactic acid bacillus in digestive tract, (62) 1910—ab
  hyperacidity, origin of, (76) 1381—ab
  juice, and urine, clinical examination of, by general practitioner, (5) 1734
  lavage, value of, (63) 1732—ab
  neurasthenia, due to eyestrain, (24) 623
  secretion and salt, (41) 537—ab
  secretion, physiology and pathology of, (28) 2089
  surgery, scope and limitations of, (86) 1186
  symptoms, reflex, factor in surgical diseases of abdomen, (133) 1553
Gastric-ulcer, (78) 948, (41) 1379
  acute perforating, (106) 1819
  and cancer, diagnosis between, at operation, *558
  and duodenal, (102) 260—ab, (94) 1036
  and duodenal, acute perforating, (42) 2090—ab
  and duodenal, chronic, (171) 171
  and duodenal, chronic, antilytic serum in, (14) 1644
  and duodenal, diagnosis of, *651
  and duodenal, secondary to wounds of bladder, (105) 260—ab
  and gastrectasia, gastroenterostomy in, (30) 1555
  antipepsin for treating, and for protection of stomach against autodigestion (68) 1558—ab
  atropin in, (116) 1560
  chronic, antilytic serum in, (14) 1644
  chronic, carcinoma of stomach grafted on, (96) 1904
  chronic, surgery of, (39) 1108, (48, 49) 1468
  diagnosis of, (13) 1549—ab
Gastric-ulcer, diagnosis and medical treatment of, (85) 1819—ab
  dietetic and medicinal *treatment* of, (127) 1828—ab
  dietetic treatment of, (91) 265—ab
  functional stomach tests in diagnosis of, (70) 1114—ab
  inoperable, (173) 171
  how frequently does it become carcinomata? (104) 260—ab, (136) 353—ab
  perforated, operation, for, (4) 1377, (48) 1468
  perforating, *495, (151) 1906
  pre-cancerous influence of, (21) 1816
  surgical treatment of, (159) 78, (118) 869
  treatment of, (111) 352—ab, (89) 625
  with other intraperitoneal lesions, (57) 624
Gastritis, atrophic, significance of wash water examinations for gastric cells in, diagnosis of, (15) 348
  suppurative phlegmonous, (41) 167—ab
Gastroduodenoscopy and diaphanoscopy, (48) 713—ab
Gastroenterostomy, analysis of stomach contents after, (83) 625—ab
  cauterizing, (60) 713—ab
  changes in chemistry of stomach after, (60) 1910—ab
  for non-malignant disease, (12) 535
  in gastric ulcer and gastrectasia, (30) 1555
  medical aspect of, (27) 1378—ab
  motor functions of stomach after, as demonstrated by x-rays, (4) 710—ab
  physiologic effects on patient with, (56) 1279
Gastrointestinal affections, occult blood in stools and stomach contents in, (97) 83—ab
  diagnosis and treatment, permeation method of, (136) 634—ab
  diseases, and pancreas, (127) 170—ab
  diseases of infancy and childhood, (73) 948
  dyspepsia, chronic, and chronic dyspeptic diarrhea, (86) *1559—ab*
  experimental absorption of tubercle bacilli *from,* (70) 1738
  ferments, (49) 2192
  hemorrhage, postoperative, (93) 2195—ab
  indigestion, nervous manifestations of, (126) 1111
  neuroses, (129) 1111
  tract and upper air passages, infection by way of, (116) 1651—ab
  tract, cancer of, (115) 78
  tract, lactic acid bacillus in and *functional* gastric disturbances, (62) 1910—ab
  tract, perforating gunshot wounds of, with recovery, (92) 1471
  tract, traumatic subcutaneous *rupture* of, (92) 2194
  tract, tuberculosis of, (59) 867—ab
  upper, abdominal, laparotomy in diagnosis of diseases *of,* (164) 171
Gastrojejunostomy, review *of,* (87) 1281, (50) 2188
Gastromyxorrhea, (15) 944
Gastroptosis, (24) 707—ab
  corset for, (11) 438
  surgical treatment of, (73) 2189—ab
  ventriculi and neurasthenia, (17) 1106
Gastroschisis, *1972
Gastroscope, (5) 171, (53) 264
  bronchoscope and esophagoscope, (16) 790—ab
Gastroscopy, (24) 348, (24) 439, (53) 708
  esophagoscopy and tracheobronchoscopy, (19) 622
Gastrostomy, (19) 1554
Gastrosuccorrhea, digestive, etiology of, (91) 876
Gastrotribe, (121) 1473
Gauze pack, *inconsistencies of,* (40) 1033—ab
Gelatin, dry, reaction of, to moisture and its importance for preservation of meat juice, (123) 1473
  for hemorrhagic diathesis of newborn, (154) 86
  iodized, tuberculous peritonitis and treatment with, (131) 1743—ab
Gelseminin in *morphin habit,* (48) 349
General practice, plea for habitual performance of autopsies in, (13) 172
  practitioner and specialist, and laboratory worker, (51) 257
  practitioner, uses of x-ray in hands *of,* (83) 1186—ab

Geniculate ganglion, herpetic inflammations of, (36) 866
Genitals, external, and right leg, congenital varices of, (8) 1549
  external, melanoma of, (49) 630
  female, and internal diseases, (23) 1550—ab
  female, cancer of, treatment of, (39) 354—ab
  female, disease of, in relation to health of women and increase in population, (73) 1280—ab
  female, external, development of, especially hymen, (63) 1903—ab
  female, prolapse of, and levator ani, (59) 81
  female, tuberculosis of, (57) 867—ab
  hypoplasia and infantilism of, (54) 538
  molluscum contagiosum of, in husband and wife and of face and neck of their infant boy, (46) 1279
  staphylococcus infection of, (60) 2008—ab
Genitourinary diagnosis, preparation for, (10) 1106
  organs, tuberculin in tuberculosis of, (37) 80
  tract, gonococcus vaccine in gonorrhea of, *1419
Genu valgum, treatment of, (76) 631
German and French for medical students, (11) 1466
  clinics, methods of diagnosis in, (62) 168
  field sanitary regulations, (119) 950
Germany, contract practice in, (73) 1375
Germ friends, plain labels on, (19) 439
Gestation, corpus luteum of, (147) 412
Gingivitis, interstitial, *386
Girls and women in Egypt, bilharziasis among, (17) 1903
Gland of Bartholin, carcinoma of, (103) 1473—ab
  palpation in diagnosis of human trypanosomiasis, review of position of, (34) 1038
  submaxillary, in cervical sympathetic of cat, vasodilator fibers to, (22) 1033
Glanders, value of agglutination reaction and of bacteriologic methods in diagnosis of, (52) 2003—ab
Glands: See also Special Structures Involved.
  and muscles, resuscitation of, after temporary anemia, (64) 350—ab
  bronchial, and apices, tuberculosis of, x-ray diagnosis, (46) 1192—ab
  cervical tuberculous, surgery of, (127) 1644
  enlarged, cervical tumors simulating, with laryngeal paralysis, (22) 1467
  in neck, injury of nerves during extirpation of, (59) 713—ab
  lymph, in syphilis, (166) 87
  lymphatic, x-ray irradiations of, spontaneous recoveries from cancer and specific immunity induced by, (9) 1735
  Mammary: See Breast
  mesenteric, primary tuberculosis of, (73) 1114—ab
  near clavicle extremities, cancer of with cancer of stomach, (4) 951
  reciprocal action of, with internal secretion, (140) 1475—ab
  salivary, ranula and other diseases of, *993
  secretory of stomach, functioning of, under abnormal conditions of innervation and duct arrangement, (97) 1913
  tracheal, x-ray examination of, (119) 2012
  tuberculosis of, seashore and brine baths in, (54) 445
  tuberculous, in mesentery, surgical treatment of, (34) 1468—ab
Glasses fitting of, relative importance of, in ophthalmic practice, (101) 1187
Glaucoma, acute, (132) 1111, (88) 1733—ab
  acute, seasonal prevalence of, in India, (33) 1283
  anatomic factors in pathogenesis of, (34) 1283
  as consequence of leucoma adherens, (27) 1283
  chronic, miotics versus iridectomy in treatment of, *1359
  chronic, treatment of, (120) 1905
  etiology of, (108) 352, (69) 1823
  following secondary cataract operation, (121) 1905
Glaucoma, modern treatment of, (92) 1826—ab
  restoration of sight after nearly a months' blindness from, (4) 2185
Glimpses of past, (93) 626
Glioma, multiple ependymal, (30) 1816
  of brain, (8) 255
  of brain involving pia mater, (7) 2185
  of retina, enucleation and recovery, (140) 1037
  venous accommodation after compression of superior longitudinal sinus by, (4) 2005
Gliosis and vascular lesions of right centrum, causing progressive hemiplegia of left side, (70) 1035—ab
Globe angioma of orbit with invasion of, along ciliary nerves, (117) 1905
Globulin from egg yolk of spiny dog fish, (19) 1731
Glossitis, staphylococcus, (110) 84
Gloves and masks advisable in surgery, (31) 1107—ab
  rubber, sterilization of (119) 1117
Glycerin as adjuvant to silver nitrate, (82) 1283
  iodoform and hyperemia in surgical tuberculosis, (15) 2093
Glycogen, cartilage, morphology of, and structure of cartilage cells, (92) 2098
  from liver, deprived of portal and systemic blood supplies, influence of stimulation of great splanchnic nerve on disappearance of, (55) 1108
  in sputum, diagnostic significance, (128) 1561—ab
  liver, and structure of liver cell, (127) 634, (129) 1043
  liver, during starvation, (116) 2100
Glycogenolytic fibers in great splanchnic nerve, experiments on nature of, (54) 1108
Glycolysis, hyperglycemia, glycosuria and diabetes, (31) 2094
Glycosuria, adrenalin, and its influencing by pancreatic juice and extract, (54) 1192
  and diabetes, diagnosis of (114) 1282
  and pancreatic juice, (19) 1111
  duodenal, negative experimental research on, (86) 1912
  experimental, influence of external temperature on, (128) 634
  experimental, induced by cauterization of inner surface of intestine, (79) 356
  hyperglycemia, glycolysis and diabetes, (31) 2094
  hypophysis, and its relation to diabetes mellitus in acromegaly, (116) 1827—ab
  phloridzin, glutamic acid ingested in, productions of sugar from, (72) 350
  phloridzin, influence of cold and mechanical exercise on sugar excretion in, (71) 350—ab
  veronal poisoning and, (64) 1380
Glycothionic acid, (160) 870
Goiter: See also Exophthalmic Goiter.
Goiter, (64) 264, (177) 951
  congenital, (46) 263—ab
  in young, (48) 791
  medical treatment of, (33) 531—ab
  surgical treatment of, (34) 531—ab
  postoperative injuries of vocal cords after removal of, results, (93) 1649
Gonococci, dead, injections of in gonorrheal arthritis, (29) 73—ab, (28) 256—ab
Gonococcus as factor in infection following abortion or full term delivery, (59) 2091
  in obstetrics and gynecology, (100) 1904
  vaccine in gonorrheal genitourinary tract, *1419
Gonorrhea, (1) 705—ab
  acute epididymitis due to, operative treatment, (15) 2001—ab
  acute, penis clamp in treatment of, (26) 623
  acute, treatment of, (124) 1553
  and pregnancy, (133) 442
  and syphilis, drug action in, (66) 1552
  antigonococcus serum in, *105
  blood changes in, (125) 1290
  antigonococcus serum, in arthritis due to, *647
  determination of, in inflamed prostate or seminal vesicle, (42) 1108—ab
  early, in male, treatment of, (23) 354
Gonorrhea, exostoses of os calcis due to, (13) 1371
  in girl babies, (86) 1733
  in women, treatment of, (95) 265, (88) 533—ab, (82, 119) 1819
  iritis, due to, (11) 627—ab, (116) 1166
  joint affections in, superheated air in treatment of, (86) 447—ab
  presumably cured, and marriage, *1925
  septicemia due to, with cardiac involvement, (17) 1549
  sociologic aspect of, (130) 1553—ab
  treatment of, and of arthritis of uncertain origin, (31) 1907
  treatment of, by suction and irrigation, *1153
  vaccine therapy in, (158) 78, (90) 1281, *1419
  vaccine therapy of, in female children, (78) 169—ab, *1298, *1301
  when is it cured? (93) 1281
Gonorrheal arthritis, (106) 793
  arthritis, injections of dead gonococci in, (29) 73—ab, (28) 256—ab
  coxitis, and protrusion of floor of acetabulum, (89) 2098
  endometritis, chronic, successful treatment of, (35) 167
  epididymitis, (95) 77—ab
  vulvovaginitis, inoculation treatment of, in children, (78) 169—ab, *1301
Gout, (33) 414
  and other affections, elimination of edogenic and exogenic uric-acid in, (113) 1475
  dietetic and physical treatment of, (66) 954—ab
  disease of metabolism, treatment (76) 1280
  of testicle and prostate, (94) 265
  pathogenesis of, (137) 267—ab
  purin metabolism in, (75) 868—ab
  rheumatism and diabetes, diagnostic value of symptoms of upper air tract in, (61) 1280
  treatment of, (88) 935—ab, (89) 1288
Gouty diathesis, treatment of, (127) 85—ab
Grain, hygienic care of, in prophylaxis of pellagara, (119) 878
Granula and motes (48) 1192
  and splinters, (49) 2095
Granulations, healing of, under Scharlach R salve (106) 1561—ab
Granule, Nissl's, with spinal anesthesia, changes in, (82) 1010
Granuloma, sarcoma of lymph glands simulating, (83) 539—ab
Graser's operation for large umbilical and abdominal hernias (66) 264—ab
Gravity, influence of, on production of frontal presentation, (61) 1113
Gray, H., anatomist, (32) 1551—ab
Great black plague, (71) 169
Greece, malaria in, (15) 706
  malaria in, during 1907, and work of antimalaria league, (141) 1117
Greek, use of, in medicine, (38) 797, (55) 1286
Grinders' phthisis, pathology of, (18) 1038
Grinding trades, dust removal in, (19) 1038
Grippe: See Influenza.
Grocco's-sign, (49) 1822—ab
  in pleurisy, (98) 1472—ab
  in pregnancy, (34) 1902—ab
Groin, lymphatics of, spread of malignant disease, in, (21) 80
Growth and development of child, physiology of, (81) 1912
  arrest of, at lower end of radius after separation of its epiphysis, (43) 791
  intrathoracic, (88) 1643
  standards for, in length and weight of new-born, (39) 629—ab
Growths, New, Malignant, etc.: See Tumors and Neoplasms.
  of head and face, (95) 1472
  psammoma-like, in wall of meningocele, (102) 1913
Guest, or personal experiences of patient in hospital for insane, (56) 257, (96) 626, (142) 870, (161) 1037, (87) 1643, (97) 2004
Guaiac test for blood, (69) 714
Guam, history of epidemics in, (45) 1108
Guha, pathologic anatomy of, (44) 1108
Guinea-pig blood, Kurloff's bodies in mononuclears of, and their protozoic nature, (62) 1823
  localization of cell and tissue anaphylaxis in, (99) 869
  serum anaphylaxis and intoxication in, mechanism of, (2) 869
Guinea-pigs and rabbits, bactericidal action of extract of leucocytes of, (61) 1039
  infected with human, bovine, or avian tubercle bacilli, ocular reaction to tuberculin in, (16) 1901—ab
  recurrent anaphylaxis and repeated intoxication in, by horse serum, (97) 869
Gum arabic, in spinal anesthesia, (92) 540—ab
Gummata, syphilitic, aneurism of heart due to, (3) 1641
Gunshot Wounds: See Wounds
Gurgling, expiratory, (83) 356—ab
Gynecologic affections and appendicitis, differential diagnosis between, (82) 1739
  inflammatory, leucocyte count for diagnosis in, (111) 877
Gynecology, (122) 260, (47) 947, (32) 952
  and appendicitis in women, (62) 538—ab
  and obstetrics, gonococcus in, (100) 1904
  and obstetrics, modern, tasks and results of, (113) 634
  and obstetrics, under-water examination and treatment in, (86) 357—ab
  conservative treatment in, (122) 450—ab
  crime of, (41) 75—ab
  development of technic of modern operations in, (24) 1033—ab
  hospital, (40) 623—ab
  in Vienna, (110, 111) 1913—ab
  offices, (46) 531—ab
  rest as important factor in the non-operative treatment of, (118) 1282
  scopolamin-morphin anesthesia in, (127) 267—ab
  spinal anesthesia in, (99) 716—ab
  teaching of, (43) 531—ab
  teaching of, charts as aid in, (40) 707—ab

H

Habits, injurious, of young children, (24) 73
Hæmaphysalis punctata, Canestrini and Fanzago, structure and biology of, (49) 1039
Hair dye, dermatitis following use of walnut juice, (71) 1035—ab
  grayness of, and mental nerve area, (14) 443
  nutritive and neurotic disturbances of, *279
  superfluous, removed by Roentgen-ray, (112) 1111
v. Haller, A., bicentennial of, (95) 1825
Hallucinations, artificial auditory, in delirium tremens, (93) 1559—ab
Halls, churches and public assembly rooms, sanitary construction and furnishing of, (151) 1188
Hammer, new percussion, *1010
  percussion, and plessimeter for threshold percussion of heart, (89) 876
  percussion, weighted, (80) 1381
  toe, (45) 629
Hams, miscured, nature and causes of taint in, (5) 353—ab
Hand, dorsal veins in, as means of individual indentification, (93) 956
  treatment of cicatricial contracture of, (130) 1117
  conservative surgery of, (15) 1462—ab
Harelip and cleft palate, (149) 1734
  and cleft-palate, operative treatment, (140) 1188, (135) 1906
  new operation for, (142) 78
Harrington, J., (71) 1732—ab
Hay-fever, (70) 1732
  alcohol injections in, (54) 791
  and asthma and Colorado, (116) 1644
  and asthma, relation of antral sinusitis to, (109) 352—ab
  hyperesthetic, pathogenesis and treatment, (78) 1280
  hyperesthetic, treatment of, (99) 1552
  hypnosis in, (120) 1473
  intractable, and paroxysmal coryza, treatment of by resection of nasal nerve, (4) 171—ab
  pollinosis, (157) 950
  treatment of, (96) 1036
Head and face, growth of, (95) 1472
  chondroendothelioma of, (125) 1914
  fetal, delivery of decapitated, (23) 2001

Head holder for autopsy work, (146) 268
  injuries, (16) 795, (119) 869—ab, (24) 872
  lancinating pains in, in tabes, (106) 1913—ab
Headache and other functional diseases, neuropathic diathesis as condition of, (98) 793
  caused by eyestrain, (64) 1035
  cure of, (20) 790
  due to nasal sinus infections, (67) 1035
  due to non-suppurative frontal sinuitis, (103) 1552
  due to of renal disease, (65) 1035
  due to toxemic conditions, (66) 1035
  in relation to refractive and muscular condition of eye, (159) 1188
  of intracranial disease, (63) 1035—ab
  of nasal origin, (86) 1281
  pathology and treatment of, (21) 172
  severe treatment of, (8) 871—ab
  treatment of eyes for, (45) 2007
Headaches, periodical, (128) 793
Healing by primary union, factors necessary in addition to asepsis to secure, (11) 1729
  in amyloid kidney, and phenomena of degeneration, (93) 2098
Health and disease, urobilin in stools in, (39) 1191
  boards, function of, in control of tuberculosis, (83) 1466
  bureau of, should we have one? (31) 1462—ab
  Bureau work, (123) 1111
  department methods for supervision of milk supply, (73) 710
  food adulterations and, (134) 260
  general configuration and meteorology of midland counties of England, (35) 444
  in tropics, (26) 712—ab
  inspection work, need and value of (7) 1638
  mental and physical, during first year of life, beginning of training for, (109) 1042—ab
  nation's outlook for, (86) 533
  of man and plants, effects of bituminous coal smoke on, (8) 1815—ab
  officer, experiences of, (39) 531
  officer, special, report of, (128) 626
  public, and vital statistics, (151) 950
  public, call to, (29) 945—ab
  public, national department of, (100) 1733, *1856, (15) 2089—ab
  resort, Austrian Tyrol as, (20) 628
  resorts and climates for children, (25) 444
Healthy, it pays to be, (78) 351
Hearing, do we hear ourselves as others hear us? (133) 78—ab
  effect of abnormal conditions in nose on, (114) 1466
  hardness of, chronic progressive, pathology and prognosis of, (85) 2092
  impaired, and adenoids, responsibility of physician for future of child with, (42) 1374—ab
  tests, physiologic, (100) 1552
Heart action, alternating, true nature of, (105) 633—ab
  action, interference with, by stooping, (89) 265—ab
  action, nervous disturbances in, (71) 798
  acute dilatation of (84) 799, (75) 1558
  acute dilatation of, from overexertion, (109) 449
  affections and Colorado, (118) 1644
  alternating, and its relation to continuous bigeminal heart, (100) 1826
  and central nervous organs, attempts to resuscitate animals by passing arterial blood through, (113) 2196—ab
  and large vessels, percussion of changes in diameter of, in various febrile affections, (130) 1562—ab
  and menopause, (100) 1741—ab
  and vascular affections resulting from metabolic disturbances, balneotherapy of, (85) 176
  and tobacco, (71) 76—ab
  aneurism of, *371
  aneurism of, due to syphilitic gummata, (3) 1644
  aortic valvular insufficiency, interrupted contraction of left ventricle in, (93) 83
  arrhythmia of, (51) 708—ab
  arrhythmia of, from view-point of myogenic theory, (13) 1467—ab
Heart arrhythmias, [illegible] 1902—ab
  [illegible] and treat-
  base of, to-and-fro rhythm of anemic souffle at, (28) 796
  beat, relation of salts to, (68) 169
  beat, safeguards of, (50) 708—ab
  bisystole of, (93) 83
  block in ventricular walls, (24) 1816—ab
  cactus grandiflorus as remedy for diseases of, (60) 2188
  changes in renal diseases, (130) 793
  changes in size of, in infectious diseases, (88) 1740
  clamping of large blood vessels near, in operation for pulmonary embolism, (76) 2097
  clinical study of, (28) 439
  compensation, failing, Karrell's milk diet and underfeeding in, (99) 876—ab
  contractions, physiology of, (71) 539—ab
  defects, coincidence of congenital and acquired, (67) 1911
  diaphragm and stomach, changes in outlines of, during respiration as shown by ray, (123) 442
  dilatation of, (96) 2189—ab
  disease and organic nerve disease, (39) 1468
  disease and pregnancy, (43) 1279—ab
  disease and tuberculosis in relation to pregnancy, (79) 2091
  disease and venesection, *747
  disease, baths and exercises in, (75) 1036—ab
  disease, birth of undeveloped twins complicated by, *316
  disease, chronic, (145) 442
  disease, a chronic treated by carbonated mineral baths and auxiliary exercises, (77) 1110—ab
  disease, congenital, (40) 1821
  disease, congenital, statistics of, (103) 869
  disease, courses of mineral waters in, (94) 447
  disease, electrocardiograms in diagnosis of, (118) 2012—ab
  disease, false, and functional cardiopathies, (56) 1738—ab
  disease, high-frequency electricity in, (2) 864
  disease in children, prognosis of, (38) 2006
  disease, liver symptoms in, (7) 166
  disease nervous, and balneology, (104) 632
  disease, non-valvular, (113) 352—ab
  disease, principles of treatment in, (76) 1036—ab
  disease, problem of, *1416
  disease, remedial measures other than drugs in, (85) 1376
  disease, spa treatment of, (32) 444
  disease, therapeutics of, (104) 626
  disease, thoracostomy in, (2) 442—ab
  disease, valvular, (124) 442
  diseases, symptomatology of, (142) 1043—ab
  diseases, functional, diagnosis and treatment, (72) 1911—ab
  dulness, diminished, in diagnosis of cancer, value of, (9) 871—ab
  ectopic, in living child, (117) 1742
  fat, and allied conditions, peripheral action of active exercise on circulatory disturbances with, (82) 1559—ab
  fibroelastomyxoma of, and casuistic study of tumor of heart, especially myxomas, (103) 1913—ab
  functional pathology of primitive tissues of, (24) 795
  functioning, office tests of, (111) 1042—ab
  gallop-rhythm of, (42) 167—ab
  hypertrophied, apparent, (126) 85—ab
  hypertrophy of and contracted kidney, (79) 1559—ab
  hypertrophy of, and arterial hypertension and hyperplasia of hypophysis and suprarenals, (29) 796—ab
  impulses, disturbances in conduction of, (111) 1560
  in school children, orthodiagraphic study of, (98) 1116
  influence of chronic digitalis treatment on, (99) 1741—ab
  influence of occupation on size of, (63) 174—ab
  influence of salts and non-electrolytes on, (60) 350—ab
  invertebrate, comparative physiology of, (51) 1108
  involvement with gonorrheal septicemia, (17) 1549
Heart, irregular, *655
  irregularities of, resulting from disturbed conductivity, (29) 439—ab
  left, hypertrophy of, characteristics of venous pulse in, with kidney heart and aortic insufficiency, (51) 174—ab
  lesions, accurate diagnosis in, (59) 1465
  lesions in children, effect of altitude on, (63) 948
  lesions in natives of Sierra Leone, (41) 1821—ab
  lungs and blood vessels, diseases of (97) 1281
  management of endocarditis during compensation, (9) 348—ab
  method of outlining, with x-rays, (73) 1380—ab
  mitral stenosis and dwarf growth, (52) 873—ab
  mitral stenosis and relative insufficiency of pulmonary valves, (115) 2196—ab
  mitral stenosis differentiation of true and false, (121) 2012
  murmur in mitral incompetency, mechanism of propagation of, to apex, (41) 355
  murmurs, transient, (30) 1907—ab
  muscles, prophylaxis of fatty degeneration of, (81) 1904
  muscles, refractory period and period of varying irritability in, (70) 350—ab
  orthodiagraphic study of, in pathologic conditions, (78) 1194
  pregnancy and childbirth with congenital mitral stenosis, (30) 712—ab
  primary tumors in, (143) 1744—ab
  pseudoaneurismal dilatation of sinus of Valsalva with malformations of, (51) 1113
  reduction in size of, and bronchial asthma, (119) 1290
  remedies, intravenous and subcutaneous administration of, (104) 1650
  resuscitation of, by subdiaphragmatic massage, (110) 1187—ab
  rupture of, (71) 1280—ab
  size of, in chlorosis, (54) 1286
  stenosis of, (62) 798
  systole of auricle, (141) 1743
  tonics, indications and contraindications for, (69) 1552—ab
  tonics, modern, (98) 1740—ab
  threshold percussion of, percussion hammer and plessimeter for, (89) 876
  training of, and functional tests, apparatus for, (74) 356
  valves in new-born infants, origin of hematoma on, (118) 359
  various localizations of murmur from mitral insufficiency, (126) 717
  vascular supply of valves of, (132) 1043
  volume curve of ventricles in experimental mitral stenosis, its relation to physical signs, (80) 2004
  weight and body weight in various animals, ratio between (156) 870
  with three auricles, (133) 1043
  work of, in relation of blood pressure, (116) 177
  work of, in relation to blood pressure and obstetrics, (26) 945—ab
  wounds, (1) 1183—ab
Heat, artificial and sun's rays, effects of, (49) 623—ab
  intense, muscular symptoms due to, *1969
  paralysis, nature of, in nervous tissues, (37) 1278
Heberden's nodes, pathogenesis of, (123) 359
Hebosteotomy, (141) 1906
  compared with other procedures in management of labor with contracted pelvis, (25) 2001—ab
Heel, epithelioma of, (44) 263
Heidelberg surgical clinic, 1907 report of, (65) 1910—ab
Hematemesis, varieties and treatment, (22) 354
Hematin and iron, proportions of, in blood, (67) 2096
Hematocolpos and hematometra, (130) 1906
Hematogenic infection in appendicitis and cholecystitis, (88) 2194
Hematology, differential counts of cells in lymph of dog and their bearing on, (158) 870
Hematolymphangioma, (76) 1040
Hematoma, and intramuscular myeloma, complicating myeloid leukemia, (53) 174
  cystic, postoperative menstrual, (60) 81—ab
Hematoma of heart valve, (132) 1043
  submucous, stenosis of bowel from in hemophiliac, (50) 1909
  traumatic subdural, trephined three months after injury, (28) 1378
Hematomas on heart valves in new-born infants, origin of, (118) 359
Hematometra and hematocolpos, (130) 1906
  unilateral, genesis of hematosalpinx with, (115) 877
Hematosalpinx, genesis of, with unilateral hematometra, (115) 877
Hematuria, (121) 626, (21) 1554, (69) 1732
  complicating appendicitis, (36) 1372—ab
  malarial, (85) 259
  symptomless, (42) 1033—ab
Hematuria, vesical, therapeutic value of medical treatment in, (109) 1733
Hemeralopes, family of, (48) 1464
Hemianopsia, bitemporal, after subsidence of epilepsy, (71) 1824—ab
  homonymous, with unusual sensory symptoms, (31) 1038
  right - homonymous, in macular regions, (178) 171
Hemiatrophy, trophic, complete, (90) 2004—ab
Hemichorea, solitary tubercle found in optic thalamus in, (152) 1475
Hemimelia with fusion of fingers, (45) 355
Hemiplegia, apoplectiform, convulsions and rigidity in, and hemorrhage into ventricles, *216
  differentiatial diagnosis of, from other paralysis, (31) 2186
  embolic, in tuberculous pericardium, three days after paracentesis, (11) 1183
  progressive, left-sided due to gliosis and vascular lesions of right centrum, (70) 1035—ab
  respiration in, (21) 795—ab
  right, degrees of ataxia in, (79) 447
  superior alternate, (49) 1464—ab
  uterine fibromas in, pregnancy complicated by, (134) 442
  right, relative eupraxia with, (94) 1115
  with unilateral optic atrophy, (10) 79
Hemochromatosis with cirrhosis of liver, (115) 1037
Hemoglobin, determination and functional value of, (74) 631—ab
  carbon monoxid, examination for, in blood of miner, killed in explosion in bituminous coal mine, (64) 1109
  estimations, point in use of Tallquist scale for, *1149
Hemoglobinuria and hemolysis, (105) 1913
  paroxysmal, (12) 348
Hemoglobinuric bilious fever and its treatment with aphloia theæformis, (52) 1380
  fever, (122) 442
Hemolysin in human pancreatic juice, (64) 630
Hemolysins and leucocidins in anaërobic cultures, (50) 445
  artificial, and blood production, (112) 1383—ab
  bacteriolysins and opsonins, (97) 716
Hemolysis and hemoglobinuria, (105) 1913
  in cancer and tuberculosis, *2036
  lipoids in, (47) 713
Hemolytic reactions in cancer, (46) 1903—ab
Hemomanometer and finger in clinical estimation of blood pressure, (10) 1644.
Hemophilia, (22) 712, (85) 1559
  and suprarenal hemorrhage, (6) 78
  pathologic anatomy of, (51) 1733—ab
Hemophiliac, acute intestinal obstruction in, (4) 1111
  affections of joints in, (53) 1380—ab
  operations on, (113) 541—ab
  stenosis of bowel from submucous hematoma in, (50) 1909
Hemoptysis, amyl and sodium nitrites in, (89) 869—ab
  fatal, in children, (45) 867
  infrequency of, in tuberculous children, 915—ab
  treatment of, (28) 531
  treatment of, in pulmonary tuberculosis, (33) 629
  tuberculous, (17) 628
  tuberculous, action of hemostatics in, (39) 1379

Hemorenal index, (20) 1258—ab
Hemorrhage and shock as postoperative complications, (101) 1301
  and pyuria cystic disease of kidney with, (10) 2001
  antepartum, accidental (137) 870
  antepartum and postpartum (32) 872, (81) 2189
  cerebral and increased blood pressure (47) 2010—ab
  cerebral duration of life after, *2101
  cerebral operation for, (76) 76
  cerebral, toxemia in infant simulating *1232
  complicating typhoid (127) 1734
  following nephrolithotomy for renal calculi subsequent nephrectomy for, (8) 951
  following quinsy, (151) 258
  following quinsy necessitating ligature of common carotid, (45) 81
  following section of uterine and ovarian vessels in dogs and its possible bearing on ruptured pregnancies, (31) 1816—ab
  following tonsillotomy with cold wire snare, (93) 441
  fresh animal sera in (2) 437—ab
  from adrenals in infants *1984
  from stomach and duodenum (24) 167
  gastrointestinal postoperative, (93) 2195—ab
  hepatic from trauma, arrest of, (84) 1731—ab
  in chronic metritis, (77) 82—ab
  in fatty capsule of kidney, (73) 2007—ab
  in pregnancy, (124) 1282
  in pregnancy concealed, contrasted with extrauterine pregnancy, (30) 1107
  in puerperium, causes, symptoms and treatment, (57) 538
  in suprarenals (124) 634
  inflammation and neoplasms, topographical representations of, by cross sections of female pelvis, (126) 1561
  internal, influence of, on chemical changes in organism especially protein catabolism, (20) 1073—ab
  intestinal, in syphilis, complete exclusion of large intestine for, (85) 1471
  into pons renal changes in, with high blood pressure, (51) 1468
  into ventricles *216
  intra abdominal due to extrauterine pregnancy, time to operate for, (32 33 34 35 37) 623—ab (46) 707—ab (31) 2007—ab
  intra abdominal, due to tubal pregnancy, deferred operation for, (47) 707—ab
  intrauterine, during pregnancy and from premature separation of normally implanted placenta (50) 1551
  method of preventing during adenectomy, (92) 441
  nasal, common source of, in persons previously healthy, (74) 2004—ab
  of kidney, essential (81) 441—ab
  postclimacteric, (104) 1904
  postpartum, (179) 951
  postpartum arrest of physiology and pathologic physiology of, (82) 447—ab
  postpartum, causes and treatment, (102) 1904
  postpartum, from atony of uterus L Goth's technic for treatment of, (135) 1117
  preretinal, (67) 1818
  Pulmonary See Hemoptysis
  retinal, and high arterial pressure, (104) 1733—ab
  severe primary, following removal of faucial tonsil (94) 441
  serious during childbirth (158) 86
  suprarenal, in infant, relation of, to hemophilia, (6) 78
  threatening internal, from ovarian perithelioma, (130) 359
  treatment of, (28) 531
  treatment of, after operations on n e, nasopharynx and tonsils, (124) 534
  uterine postclimacteric, due to relative hypothyroidism, *2157
  uterine, significance of, (97) 1377—ab, (56) 1903—ab
Hemorrhagic diathesis of new born, gelatin in, (154) 86
Hemorrhoids, diagnosis and treatment of (109) 959
  and prolapse, inflatable pessary for, (98) 205
  in children, (47) 2192
  injection treatment of (55) 440
  internal operative treatment of, (76) 2189
Hemorrhoids, new operation for, (8) 2298—ab
  radical treatment of, by excision, *2038
  relative merits of operations for, *992
Hemostasis, preventive, with Esmarch-Silvestri technic modifications in blood in, (125) 178
  temporary, during removal of renal calculi, (110) 2010—ab
Hemostatics, action of, in tuberculous hemoptysis, (39) 1379
Hemotropins of immunized guinea pigs, (177) 87
Hen, resection and end to end anastomosis of oviduct in, without loss of function, (52) 1108—ab
Henoch's purpura and angioneurotic edema, (28) 261
Hepatitis, amebic, presuppurative stage of, treatment of in prevention of tropical abscesses of liver, (28) 349—ab
  chronic, initial lesions in, (47) 171
Herd theory, as etiologic factor in ozena, (145) 353
Heredity and disease, (97) 793, (1) 1820
  and environment, relation of, to life expectancy, (75) 2091
  and inheritance, (10) 2190—ab
  and social problems *1224
  disease and death, (129) 1820
  experimental research on, (94) 2010 (10) 2190—ab
  explosion of theory of, (7) 1183—ab
  in cancer, (3) 2190—ab
  in diseases of nervous system, (2) 2189—ab, (11) 2190—ab
  influence of on tuberculosis, (4) 2189
Hermaphrodism, (80) 799
  case of (75) 1107
Hernia, (120) 260, (96) 1466
  and herniotomy, (27) 707
  as understood and treated by past and present surgeons, (65) 868
  complicated by gangrenous appendicitis, *754
  congenital, umbilical, successfully operated on, (25) 972
  curative versus palliative treatment of, (106) 442
  femoral, (25) 439, (20) 622
  femoral, rare variety of, (117) 1084
  femoral incarcerated, containing appendix, *1154
  femoral Ruggi's method of treating, (127) 1290
  history of operations for, (122) 800
  in linea alba, (31) 945—ab
  in sacrosciatic foramen, (62) 376—ab
  incarcerated atropin in (101) 2011
  incarceration of, by subperitoneal lipoma, (99) 2011
  inguinal, choice of procedure in radical treatment of, in adults, (62) 2007
  inguinal cocain as local anesthetic in radical operation for, (95) 1552
  inguinal, direct, (20) 2226
  inguinal, early diagnosis of, (141) 1188
  inguinal, individualization in treatment of, (121) 878
  inguinal oblique, radical operation for (34) 2001
  inguinal, of uterus, (61) 2008—ab
  inguinal, pulmonary embolism after radical treatment of, (41) 629—ab
  inguinal, radical operation for (118) 1042, (143) 1188
  inguinal, treatment of undescended or maldescended testicle with, (31) 1372—ab
  internal intestinal, origin and treatment of, (113) 1289
  internal strangulated, or internal intestinal strangulation, (21) 1107—ab
  into duodenojejunal fossa, (51) 1034
  intra abdominal rotation of great omentum, unaccompanied with, (27) 1107—ab
  management of (107) 1819
  Meckel's diverticulum in, (31) 1467
  of appendix, complicated with appendicitis, (28) 1033
  of bladder, (75) 2097—ab
  of brain, anatomy of, (55) 1556
  of diaphragm, origin and treatment of, (109) 633
  of gravid uterus after Cesarean section (144) 260
  of tube and ovary, complicated by strangulation of intestine, (11) 944
  operation Kocher's modification of, (124) 1117
  primary tuberculosis in, (58) 1280—ab
  right mesojejunal, (140) 1111
  sac, anatomy and pathology of, (5) 1111—ab
Hernia, sliding, (94) 169—ab
  strangulated, stenosis of intestine following, (48) 2192
  strangulated, treatment of gangrene in, (7) 171—ab
  through semilunar line, and direct inguinal hernia, (1) 1377—ab
  umbilical, (66) 1648
  umbilical, advantages of double flap method in radical operation for, (67) 1286—ab
  umbilical, congenital, (13) 1072
  umbilical, in infant, flannel roller bandage in, (40) 440
  umbilical simplified operation for, (50) 1822—ab
  ventral, (91) 533
  ventral, operation, (96) 1733
Hernias incarcerated (57) 1907
  inguinal and femoral, local anesthesia for operations on, (125) 1117
  large, in children, (42) 1907
  large umbilical and abdominal, Graser's operation for, (66) 261—ab
  multiple, of cerebrum and cerebellum, due to intracranial pressure, (111) 869
  umbilical, (102) 2099
Herniologic notes, (90) 2194
Herniotomies, remote results of, at Upsala, (122) 800
Herniotomy, (95) 1377
  and hernia, (27) 707
  in children, (49) 1551
Herpes of membrana tympani, due to zosteroid affection of petrosal ganglion (35) 1108
  zoster ophthalmicus and paralysis of trochlearis, (129) 1282
  zoster oticus, facialis, with facial palsy and auditory symptoms, in herpetic inflammations of geniculate ganglion, (36) 866
  of geniculate ganglion, characterized by herpes zoster oticus, facialis, or occipitocollaris, with facial palsy and auditory symptoms, (36) 866
Hexamethylenamin, excretion of, (85) 77
Hides sterilizing action of sunlight on 663—ab
High frequency apparatus for Keating-Hart technic, (106) 358
  currents and hysteria, (90) 2010—ab
  currents and ultraviolet ray in neurasthenia, (11) 2185
  current and x rays in leprosy, (42) 1112—ab
  currents therapeutic application of, (48) 255
Hip joint, deceptive conditions in, (3) 1031
  deformity with lumbar scoliosis, (68) 1039
  disease, (118) 1377, (85) 1904
  disease, cause of flexion in, (107) 77
  disease, tuberculous, influence of weight bearing on treatment of, (113) 1553
  dislocation and congenital muscular rigidity, (80) 357—ab
  dislocation, congenital, (2) 260—ab, (81) 351, (70) 1648
  dislocation of, congenital, treated by open operation, (137) 1282
  dislocation, congenital, treatment, (60) 1738, (48) 1822, (40) 2006
  dislocation, dorsal, reduction of, (38) 1640—ab
  dislocation, rare, (47) 797
  irreducible forward dislocation of, operative treatment of, (43) 797
  non tuberculous bone infections about, (14) 1184—ab
  resection of, with interposition of flap of muscle, (109) 1826
  tuberculous disease of (8) 261—ab
Hip muscles, physiologic action of, (45) 1555
Hirsch technic for weight bearing stumps, (49) 713
Hirudinea as human parasites in Palestine, (50) 1039
Histoplasmosis fatal infectious disease resembling kala azar found among natives of tropical America, (22) 1816—ab
Hodgkin's Disease See Pseudoleukemia
Hoffa, A, (111) 1552
Holloway, J M, late extracts from war correspondence of, (86) 793, (125) 1377
Homatropin hydrobromate, toxic symptoms following instillation of, (100) 442
Home and sanatorium treatment of tuberculosis (46) 2188
  and school, preventive medicine in, (79) 948
Homeopathy of Hahnemann compared with that of to day, (107) 797—ab
Honolulu school of tropical medicine, (85) 169
Hookworm, American — uncinariasis, (135) 626
Horns, human, *1326
Horny substances, composition and importance of, (106) 1116
Horse serum, mechanism of anaphylaxis and to, (33) 712
Hospital and professional anesthetist, (8) 789—ab
  construction, (76) 1818—ab
  gynecology, (40) 623—ab
  histories, (39) 623—ab
  New York State, for Crippled and Deformed Children, (119) 626
  psychopathic, and psychiatric and neurologic wards, (13) 944
  Rotunda, clinical reports of, (57) 1039, (32) 1190, (32) 2006
  Rotunda, pathologic report of, (26) 2094
  treatment in incipient insanity, (19) 1377
  voluntary, future of, and its relation to reformed poor law medical service, (10) 261
Hospitals and camps, consumptive, are they menace to neighborhood? (14) 360—ab
  cottage, construction of, (13) 261
  general and provident system, (11) 261
  home, for middle classes, (12) 261
  maternity, mortality and morbidity of child bearing women could be reduced if they were more in favor, (22) 623—ab
  promotion of uniformity in registration of diseases in, (15) 261
  public medicine and medical studies (24) 1645—ab
Hot Springs, hot baths at, (52) 1817
  of Virginia, (8) 2098
Housing problem, (70) 1818
  and medical profession to, (6) 1106
Human element in medicine, (21) 1901—ab
Humerus, epiphyseal displacements, treatment of, (35) 74—ab
  fracture-dislocation of, (33, 34) 74—ab
  fracture dislocation of, operative indications, (58) 441, (65) 624
  fracture of supracondyloid, reduction of, (40) 1372—ab
  fracture of, treatment, (35) 74—ab
Humor, wit and insanity, (34) 1821
Hunter, J, master mind in medicine, (103) 442
Hyalin corpuscles in plasma cells, (123) 634
  production of, in arteries, (119) 359
Hydatid cysts of spleen (43) 873—ab
  disease in long bones, (71) 1114—ab
  disease in West Australia, (27) 80
  disease of muscles (87) 1194
Hydatidiform mole, histology of, (60) 1113
  symptomatology and diagnosis of, (118) 1914
Hydrazin poisoning, pathologic anatomy of, (151) 870
Hydroa puerorum, (115) 260
Hydrobromate, homatropin, toxic symptoms following the instillation of, (100) 442
Hydrocele and spermatocele, (131) 170
  double abdominal, (7) 1038
  of inguinal canal and venous thrombosis, (44) 1033
  radical cure of, by inversion of tunica vaginalis, (48) 623
  treatment of, (119) 1042—ab
Hydrocephalus, cerebellar symptoms in, *1933
  epilepsy, and tumors, puncture of corpus callosum in, (110) 1042—ab
  extraordinary case of, *128
  in small children, treatment of, (58) 1909—ab
  obstructive, following cerebrospinal meningitis intraventricular injection of antimeningitis serum, (159) 870
  of meningococcus origin, (101) 1819—ab
  operative treatment of, (93) 1115—ab
  subcutaneous continuous drainage of ventricles in, (78) 2.6—ab
Hydrogen dioxid influence of on secreting functions of stomach, (59) 1910—ab
  systematic inhalation of, in prophylaxis of measles, (99) 176
  test for blood in urine, 9——ab

Hydrolysis of chicken meat, (34) 1278
  of legumelin from pea, (46) 1731
  of vetch legumin, (33) 1278
  of vicilin from pea, (45) 1731
  of vignin of cow-pea, (53) 1108—ab
Hydronephrosis, and abnormal renal vessels, (125) 1652
  etiology of, (40) 1730
  in children and its treatment, (110) 1733—ab
  plastic operations on kidney pelvis and upper segment of ureter for, (66) 356—ab
Hydrophobia, (72) 1280—ab, (81) 2189
  causes of failures in treatment of, (52) 445—ab
  in Philippines, *2143
Hydrops of joints, intermittent, (28) 167
Hydrorrhea of amniotic fluid, (123) 717
Hydrotherapy, (90) 533
  in arteriosclerosis, (86) 2098
  in childhood, (63) 257—ab
  in mental and nervous diseases, (6) 1461—ab, (148) 1906
  in scarlatina, *1304
  methods of application, *1420
Hygiene and diet of children, (91) 2189—ab
  and sanitation: domestic, municipal, national and international, (77) 869
  exact, a negligible factor in sickroom, (182) 951
  in China, (33) 796—ab
  instruction in, a necessity for both teachers and scholars, (103) 534
  military and camp sanitation, (86) 1466
  of eye in school children, (44) 623—ab
  of nipples, (74) 1193
  personal and school, training of teachers in, (12) 871
  rural and village, (44) 946
  school, (32) 1112, (153) 1906
  state medicine and materia medica, (66) 1375
Hygienic Institute, dedication of, (106) 2011
Hymen, anatomy of, (98) 534—ab
  intact, speculum for vagina with, (81) 447
Hyoscin-morphin anesthesia in obstetrics, (133) 793, (12) 1377
Hyperacidity, gastric, origin of, (76) 1381—ab
Hyperalgesia after injuries of skull, (101) 448—ab
Hyperalimentation of consumptives, dangers of, (25) 1554—ab
Hyperemesis: See also Vomiting.
Hyperemia, (102) 77, (106) 626, (7) 627, (94) 949, (118) 1111, (28) 1112, (14) 1189, (8) 1549, (57) 1823—ab, (49) 2188—ab
  action of, in animal experimentation, (73) 264—ab
  and hypertransudation, treatment of chronic empyema by, (6) 1111—ab
  and iodoform glycerin, in surgical tuberculosis, (15) 2093
  attempt to explain action of, (86) 632
  constriction, action of, on animals, (58) 1557—ab
  constriction, in meningitis, (143) 86—ab
  constriction, in neuroses, (112) 169
  constriction, method of, regulating pressure in, (10) 255—ab
  experimental, in streptococcus infection in rabbit's ear, (100) 1913—ab
  how to enhance its curative efficiency, (106) 626
  in acute inflammations, (84) 632—ab, (136) 870, (40) 1112—ab, (2) 2092
  in affections of the nose, (141) 718—ab
  in dispensary practice, (116) 1383
  in flatfoot, (75) 639
  in nephritis, (101) 1041
  in neuroses, (28) 1462—ab
  in suppuration, (69) 1286—ab
  in surgery, (130) 950
  induced, (8) 2190
  induced venous, experimental tuberculosis of kidney with, (102) 266
  of brain, in incipient arteriosclerosis, (71) 955—ab
  passive, and cupping, in acute suppurative infections, (26) 1640—ab
  passive, in rheumatoid arthritis, tuberculosis, sepsis and other conditions, (35) 1736
  suction, its use in urology, (128) 85—ab
  venous, in alopecia, 1389—ab
Hyperglycemia, glycolysis, glycosuria, and diabetes, (31) 2094
Hyperidrosis, unilateral, (78) 175
Hyperinflation, eustachian catarrh with, (89) 1552
Hypernephroma, clinical study and pathologic reports, (25) 1640
  four cases of, (158) 950
  in vulva as only metastasis of malignant hypernephroma, (96) 1913
  of kidney, and tumors of adrenal origin, (1) 1460—ab
  malignant renal, atypical forms of, and their chemical characteristics, (140) 442
Hyperplasia and atrophy in liver in consumptives, (101) 1472
  of hypophysis, hypertrophy of heart, arterial hypertension and suprarenals, (29) 796—ab
  of thymus in Addison's disease, (105) 877
Hyperpyrexia, (12) 1038
  in children, *1920
Hypersusceptibility, reaction of, as produced by bacterial inoculations, (107) 869
  to horse serum, *840
Hypertension, arterial, hypertrophy of heart and hyperplasia of hypophysis and suprarenals, connection between, (29) 796—ab
Hyperthermia, significance of, (61) 2097—ab
Hypertonia vasorum cerebri, (75) 710—ab
Hypertransudation and hyperemia, in chronic empyema, (6) 1111—ab
Hypertrichosis and port-wine marks, removed by x-rays, (38) 873
  x-rays in, (21) 1820
Hypertrophy of clitoris, (50) 1113
  of heart, arterial hypertension and hyperplasia of hypophysis and suprarenals, (29) 796—ab
Hypnoidization in functional psychoses, (42) 2187
Hypnosis in hay fever, (120) 1473
Hypnotism, inebriety treated by, (90) 1466
Hypophysis and acromegaly, (59) 1557—ab
  glycosuria and its relation to diabetes mellitus in acromegaly, (116) 1827—ab
  hyperplasia of, hypertrophy of heart, arterial hypertension and suprarenals, connection between, (29) 796—ab
  removal of, for adipose genital degeneration, (103) 877—ab
  tumors in, and acromegaly, (124) 878—ab
Hypospadias, female, incontinence of urine from, and its treatment, (129) 359
  treatment of, in adults, (127) 2197
Hypothyroidism, relative, postclimacteric hemorrhage due to, *2157
Hysterectomy, abdominal, for cancer of cervix, immediate mortality of, (14) 2190
  abdominal, for fibroids, in London, (11) 443
  abdominal, for rupture of ureters, (24) 2094—ab
  abdominal, technic of, *1563
  factor of mortality in, (44) 707
  for cancer, immediate and remote results of, (59) 2008—ab
  for menstrual reflex epilepsy, (127) 1742—ab
  prolapse of rectum and sigmoid, following, *1125
  repair of bladder and recovery, *1406
  simple, in simple cases, (38) 167
  supravaginal, preservation of ovarian tissue in, (42) 75—ab
  supravaginal, simplified technic for, (36) 167
  vaginal, (126) 626
  vaginal, in pregnant women, recovery, (129) 626
  vaginal, radical operation for inversion of vagina and enterocele after, (124) 1742
Hystereurynter, funnel-shaped, (95) 1115—ab
Hysteria, (88) 2189—ab
  and high-frequency electricity, (90) 2010—ab
  and neurasthenia, psychology of, (24) 1377—ab
  and suggestion (35) 796
  nature and treatment of, (140) 1734
  revised conceptions of, (42) 537—ab
  treatment of, (75) 1471—ab, (71) 2003—ab
Hysteropexis hypogastria, pregnancy, parturition and puerperium after, (3) 1553—ab
Hysteropexy, inguinal, (120) 1561—ab

I

Ichthyosis, acquired, (151) 535
  fetal, placenta and membranes involved, (37) 1816
  leukemia complicated by synovitis in youth with, (30) 1378
  or acanthosis—which? (82) 710
Icterus, chronic acholuric, with splenomegaly, (87) 1288
  nerve nucleus, of infants, (95) 799—ab
Ideal in medicine, (74) 868—ab
Ideals and ideas in medicine, (72) 1186—ab
Ideas and ideals in medicine, (72) 1186—ab
Identification, individual, dorsal veins in hand as means of, (94) 956
Idiocy, diagnostic delimitation of forms of, (101) 1650
Idiosyncrasies, (73) 1470
Idiosyncrasy to aspirin, (85) 955
  to eggs, (153) 86—ab
Ileocolic arches, (105) 1377
  circle, (11) 2233
Ileocolitis in boy of three, complicated by tapeworm, (111) 1282
  of infants, simaruba in, (29) 1372
  with intoxication, *2156
Ileum and jejunum, primary carcinoma of, (49) 797
  sarcomatous tumor of, removed by resection of bowel and end-to-end anastomosis, (39) 1112
Ileus, (26) 1372
  and peritonitis, pulse in, (130) 267
  chronic, (112) 626
  clinical manifestations of, (71) 258—ab
  duodenal-jejunal, or acute dilatation of stomach? (71) 1648
  from constriction of intestine by tube, (81) 632
  gallstone, (5) 1282, (84) 1471—ab
  gastromesenteric, acute and chronic, cured by duodenojejunostomy, (41) 1464
  postoperative, (26) 707
  postoperative, from re-enforcing suture, (87) 1471
  postoperative mechanical, (48) 947
  symptoms of, in latent appendicitis in young, (103) 2194
  treatment of, (72) 258—ab, (69) 356—ab
Iliac swellings, diagnosis of, (28) 952
Iliacus, psoas parvus and psoas magnus, tenotomy of, in spastic spinal paralysis in adult, (103) 1826—ab
Iliopsoas and head of femur, abscess between, (40) 2191—ab
Illinois, normal waters of, (78) 1466
  public health laws in, (84) 1036—ab
  State Board of Charities, what it is accomplishing, (73) 169
  treatment of pulmonary tuberculosis in, (77) 441—ab
Illness caused by bacillus paratyphosus, type A, (120) 1652—ab
  last, of King Oscar II., (121) 1652
  or injury, employers' liability for, (23) 2190
Illumination, artificial, of school rooms, (119) 1905—ab
Iloilo, P. I., epidemic of typhoid at, (82) 169
Imagination, rôle of physician in producing or maintaining maladies derived from, (47) 1374—ab
Imbeciles, legal restraint of, (108) 534—ab
Imbecility and crime and legal restraint of imbeciles, (108) 534—ab
Immunity, (126) 1037, (49) 1185
  against vaccinia in animals, (29) 2190
  and ferment action, (74) 875
  and tuberculosis antibodies, (67) 630, (58) 1193, (100) 1650
  from yellow fever, how it may be acquired, (164) 1189
  in bacilli carriers, (18) 1735
  opsonic, nature of, (29) 256
  passive, conferred by serum treatment, (53) 81
  phagocytic, and therapeutic injection of dead bacteria in endocarditis, *1571
  production of, to dysentery toxin, (19) 1735
  to tuberculin, (87) 1912—ab
Immunization by revaccinations, (47) 873
  therapeutic, (25) 80—ab, *571
  tuberculin, in tuberculosis, (53) 791—ab, (123) 1188—ab
Immunized guinea-pigs, hemotropins of, (177) 87
Immunizing properties of diplococcus cultivated on organ extracts, (138) 267
Impetigo-contagiosa, (7) 621
  and diphtheria in child, (5) 870
Impulse, condition of, to auricle, disturbances in, (59) 2097—ab
Inaugural symptoms, (1) 2234—ab
Incineration in military stations, (25) 796—ab
Incision, antiferment treatment of suppuration without, (91) 799
  exploratory, (77) 1375
  legal aspect of, (65) 1818
Incisions, vaginal, vertical-abdominal, and Pfannenstiel, *912
Incisor, protruding, early treatment of, (6) 353
India, dementia præcox in, (38) 445
  domestic animals of, are they affected by plague? (25) 628
  sanitation in, (3) 1820
  seasonal prevalence of plague in, (29) 628
  southern, cancer of mouth in, (14) 79—ab
  typhus in, (36, 37) 445
Indian ports, seven-day fever of, (26) 354
Indians, Alaskan, sanitary conditions among, (50) 623
  fresh from plains, refraction in, *308
Inductorium, calibration of, for break shocks in faradic stimulation, (69) 350—ab
Indican in urine and indol in stools, lack of connection between proportion of, (67) 1114
Indigestion, gastrointestinal, nervous manifestations of, (126) 1111
Indigo carmin, methylene blue and sodium carminate, kidney secretion of, (50) 1108—ab
Indol in stools and indican in urine, lack of connection between proportion of, (67) 1114
Industrial accident insurance, importance of graphic registration of neuromuscular reactions for, (70) 1039
  accidents, compensation for, and traumatic inflammation of joints, (60) 1380
  dermatitis, (21) 1038
  disease, international committee on, (23) 1038
  diseases, notification of, (20) 1038
  evils, (69) 2188—ab
Inebriates, acts relating to, (18) 1377
  and dipsomaniacs, Massachusetts State Hospital for, (82) 2189
  psychic treatment of, (45) 349
  why Pennsylvania should build, equip and maintain hospital for restraint, care and treatment of, (96) 169
Inebriety and crime, (92) 1466
  as cause of deaths at Basle, (137) 1043
  treated by hypnotism, (90) 1466
Infancy: See also Infant and Infants
  and childhood, care of mouth in, (12) 2186—ab
  and childhood, diet in, (19) 712
  and childhood, gastrointestinal diseases of, (73) 948
  and childhood, summer diarrheas of, (137) 534
  and childhood, tuberculosis in, (71) 441
  early, and pregnancy, syphilis in, (51) 1279
  early, clinical investigation in, (26) 1907
  early, digestion and nutrition in, special characteristics of, (45) 1285—ab
  muscular dystrophy following acute poliomyelitis in, (116) 949
  nephritis in, (37) 1467
  obscure fever in, (3) 347—ab, (86) 869—ab
Infant anatomy, peculiarities of, (100) 2189
  and fetus, shape of ureters in, (63) 538
  anorectal imperforation in, surgical treatment of, (30) 1640—ab
  anorexia nervosa in, (57) 257
  Bell's palsy in, (44) 440
  binders, dangers and evil effects of, (11) 172—ab
  diarrhea, and dysenteric bacilli, (50) 76
  eight months', gangrenous purpura in, (30) 173
  feeding, (46) 75—ab, (132, 133) 260, (112) 352, (42) 440—ab, (16) 623, (23) 1372, (65) 1552, (40) 1816, (52) 2090
  feeding and symptoms of inherited syphilis, (153) 1475
  feeding, artificial, for general practitioner, (40) 1816
  feeding, artificially drawn breast milk in, (111) 449

Infant feeding, breast and artificial, (112) 382
  feeding, breast, importance of, for reduction of infant mortality and means to promote it (107) 1473—ab
  feeding, criteria and standards in, *1687
  feeding, distribution of bacteria in bottled milk and its application to (146) 1282
  feeding, fallacious standards in, *1214
  feeding, high fat percentages in, *1219
  feeding, kefir in, (94) 632—ab
  feeding of healthy, *101
  feeding, starch in, (51) 76
  flannel roller bandage in umbilical hernia in, (40) 440
  food, reliability of sterilized and pasteurized milk as (142) 1906
  four days old, tetany in *755
  fractured femur in, (92) 1643
  gangrene of extremities in, (48) 867—ab
  having enlarged thymus gland with three lobes, sudden death of, (66) 792
  hemorrhagic diseases of *2215
  injuries in, produced by attempted artificial respiration, (48) 2002—ab
  kidney lesions in, (58, 59) 257—ab
  mortality, *1045, (12) 1111, (48) 1379
  mortality and legislation in Great Britain, (15) 1189
  mortality, causes of, (63) 1470—ab
  mortality, importance of breast feeding for reduction of, (107) 1473—ab
  mortality in Norway, influence of various causes of death on, (122) 84
  multilocular cyst of neck in, (42) 445
  new born, erysipelas in, (85) 629
  new born, fracture of femur in, (15) 79—ab
  new born, habitual malignant jaundice in, (104) 2011—ab
  new born, hemorrhagic diathesis of, gelatin in, (154) 86
  new born, lachrymonasal duct in, imperforation of, its clinical manifestations, *188
  new born, paratyphoid and melena in, (62) 264—ab
  new born, sclerema in, (97) 799
  nutrition, available alkali in ash of human and cow's milk in its relation to, (23) 1033—ab
  polioencephalitis of, (52) 1552
  rheumatism, articular, in, (53) 76
  stomach of, development of, *1750
  stomach, pepsin in, and dependence of its digesting power on hydrochloric acid, (97) 1116
  stools curds in, (4) 72
  suprarenal hemorrhage in, and hemophilia, (6) 78
  thriving of, importance of different proportions of fat in breast milk and (56) 874
  toxemia in, simulating cerebral hemorrhage, *1232
  training of, (109) 1042—ab
  urine and stools of home-made apparatus for collecting (64) 1469
Infantile affections resulting from food (123) 1652
  convulsions, prognosis of, (16) 1736—ab
  digestion, *2125
  dystrophy, progressive, of muscles, congenital muscular defects and infantile disintegration of nuclei (83) 1115—ab
  lymphoid leukemia with nucleated corpuscles, (43) 355
  marasmus, (17) 80
  paralysis, *1677, *1946
  paralysis, epidemic, *112
  paralysis, nerve anastomosis in, (16) 348—ab
  paralysis, treatment of, (12) 73—ab, (14) 1555
  paralysis treatment of deformities of, (67) 1642—ab
  paralysis, with scoliosis and muscular atrophy, (43) 1907
  scurvy, (50) 257—ab, (79) 259—ab
Infantilism, familial dystrophic, (136) 718
Infants and children chronic constipation in, (47) 1817
  and children, diabetes in (87) 1376—ab
  and mothers institutions for caring for, (77) 1558
  atrophic, plan of dealing with, (40) 807—ab
  cardiospasm as cause of habitual vomiting of, (124) 1043—ab

Infants, carrot soup in digestive disturbances in, (73) 955—ab
  diarrhea, epidemic in, (7) 1189—ab
  diarrhea, summer in, treatment of, (24) 1372
  diarrheal affections of, character of stools, and intestinal findings in *1906
  diarrheal disorders of, (147) 1731
  digestive disturbances in due to overfeeding of fat, (175) 950
  diseases of, progress in study of, (58) 1647—ab
  eczema of, results with salt free diet in, (81) 559, (84) 1825
  fat, metabolism in, (92) 1076
  fed on foods rich in albumin, toxicity of urine and stools and intestinal putrefaction in, (152) 360—ab
  fracture of femur in, treatment of, (16) 711—ab
  healthy and sick, daily variations in body temperature in, (96) 1116—ab
  hemorrhage of adrenals in, *1961
  infections and intoxications in, (43) 1555—ab
  influence of breast nursing in first few days after birth, (114) 877
  infusion of salt and sugar solutions in, (66) 630—ab
  intestinal intoxication in, (41) 440
  intestinal microbian flora in, (71) 2008
  nerve nucleus icterus of, (95) 799—ab
  new born, origin of hematoma on heart valves in, (118) 359
  new born, tracheal insufflation in, (22) 1645—ab
  new born, treatment of depression of skull in, (98) 1288
  nutrition disorders in, (110) 626
  opsonic index in, (27) 80—ab
  pneumonia in, ambulatory treatment of, *286
  renal sarcoma in, (55) 76
  simaruba in ileocolitis of, (29) 1372
  skimmed milk as temporary food for, (71) 709—ab
  skin reaction to tuberculin in, (82) 1912—ab
  stenosis of pylorus in, (137) 353—ab, (59) 332—ab, (2) 705 (129) 1734, (73) 2091, (130) 2197—ab
  stenosis of pylorus in, internal treatment, (130) 2197—ab
  stenosis congenital hypertrophic, and spasm of pylorus in, (48) 708—ab
  subperiosteal abscess in, (67) 792
  suppurative cerebrospinal meningitis in, simulating tetany, (31) 173
  tuberculin, cutaneous reaction in, (91) 540—ab, (94) 1559
  tuberculosis in, laboratory diagnosis of, (57) 76
  tumor on frenum of tongue in, (89) 1649
  urinary infection in, (36) 873
  urinary findings in intestinal infection in, (38) 2002
  with inherited syphilis, brain findings in, (80) 1912—ab
  with inherited syphilis, serum diagnosis in mothers of, (84) 876—ab
Infection, acute, of female pelvic organs, treatment of, (88) 169—ab
  air of minor importance, *2048
  and asepsis, influence of, on technic of delivery by Cesarean section, (61) 1648—ab
  avoidance of, during intestinal anastomosis, (26) 1731—ab
  by upper air passages and digestive tract, (116) 1651—ab
  contact, epidemic typhoid and, (83) 169
  in tuberculosis, (2) 72—ab
  neoplastic, of nerves and arteries, in cancer and cirrhosis of liver, (128) 1914
  of man by dipterous larvæ, (37) 2002
  of operative wounds by malignant disease, *718
  pneumococcus, parotitis from, (130) 185—ab
  puerperal, collargol in, (84) 81
  puerperal, disinfection of uterus in, (10) 1734
  puerperal, fixation abscesses in, (17) 2225—ab
  systemic, relation of tonsils to, (181) 171
  transmission of, from puerpera to child, (95) 622—ab
  wound puerperal, etiology of, (137) 2198

Infections, acute, sodium nucleinate, in, (64) 2185
  acute, theory of therapeutic injections of fresh normal serum in, (64) 792
  and intoxications in infants, (43) 1555—ab
  bacterial, therapeutic application of stock vaccines in, (3) 1466
  of kidney, acute unilateral hematogenous, (142) 353—ab
  of knee joint, treatment of, (80) 1904
  surgical, vaccine therapy in, (18) 2089—ab
Infectious diseases and milk to, *1191
  complement fixation in, (66) 1911—ab
  growth of knowledge in, (84) 710
  house fly as agent in dissemination of, (60) 1105—ab
  joint affections caused by, (63) 868—ab
  neutrophile blood picture in, (149) 1475
  opsonic index in diagnosis of, (88) 1649
  pyocyanase in, (97) 2194
  symmetrical gangrene of legs in, (116) 1914
  tonsillar ring and paranasal sinuses as portals of entry of, (87) 2004
  total deafness following, (127) 870
  vaccine therapy of, (47) 2007
  what should be taught regarding dangers of, in first aid courses? (67) 356—ab
Infective processes, influence of nervous system on, (12) 2093—ab
Inflammation, acute, hot air in, (120) 1827—ab
  acute stasis hyperemia in, (136) 870, (40) 1112—ab
  endometritis and importance of plasma cells in, (132) 359
  acute, hyperemia in, (2) 2092
  influence of different colored light on, (83) 1559—ab
  passive congestion in, (40) 1112—ab
  pericolic, (145) 1734
  significance of, treatment, (71) 1818
  traumatic, of joints and compensation for industrial accidents, (60) 1380
  traumatic, serous, rheumatic origin of, (2) 2234—ab
  treatment of, *382
  tumors from, (46) 1646—ab
Inflation of stomach, lavage and rapid method of test meal removal, (81) 1280—ab
Influence, correlation of, (18) 1278
Influenza, (144) 870
  and appendicitis, (102) 448—ab
  cerebral, (9) 79—ab
  and pneumonia, relation of anticyclonic weather to prevalence of, on northern hemisphere, *660
  clinical features of, since pandemic of 1889 1890, (96) 1281
  complications and sequelæ of, (148) 171
  diagnosis from morphologic standpoint in stained specimens of sputum, (6) 166—ab
  ear complications of, treatment, (50) 1468—ab
  encephalitis due to, simulating tetanus, (83) 176
  epidemic, etiology of (47) 1903—ab
  inflammation of accessory nasal sinuses as sequel of, (99) 352
  therapeutics of, (66) 76—ab
  treatment of, (150) 1906
  types of, (31) 2006
  unhealthy tonsils of, (86) 1110
Infundibulum bougies for dilatation of, (23) 1467
Infusion, adrenalin saline intravenous, efficacy of, (115) 266—ab
Inguinal canal, exploration of, (29) 1555—ab
  venous thrombosis and hydrocele of, (44) 1033
Inheritance and heredity, (10) 2190—ab
  of certain human abnormalities, (34) 262—ab
Injection and dietetic method of treating typhoid, (69) 792—ab
  intravenous of blood corpuscles of foreign species, cause of sudden death following, (53) 1903—ab
  repeated, of large amounts of curative sera, dangers of, (102) 1382
Injections, intrauterine, dangers and uses of, (51) 1647—ab
  subcutaneous, collapsible cartridge method for, (93) 1740
Injuries after effects of, (35) 1646
  crushing, conservative surgery in, (96) 1377

Injuries crushing, of extremities, (136) 170
  from lightning and electricity, (78) 715—ab
  minor, (95) 1644—ab
  surgical, brought on by violent exercise, (3) 442
Injury, loss or damage on account of, duty of injured person to make as light as possible, (89) 793
  or illness, employers' liability for, (23) 2190
Inky polygraph, (12) 172
Innervation and duct arrangement secretory functioning of stomach glands with abnormal conditions of (97) 1913
Inoculation, diagnostic, with fat free tuberculin, (107) 449
  of substances other than products of bacterial origin, production of agglutinins in animal body by, (157) 870
Inoculations, bacterial, (113) 1282
  bacterial, reaction of hypersusceptibility as produced by, (107) 869
  therapeutic, pseudodiphtheria bacillus infections with their response to, (106) 869
Insane asylum, Dacca, outbreak of epidemic dropsy in, (38) 1757—ab
  hospital for, and psychiatric and neurologic wards, (13) 944
  development of legal relations concerning, suggestions for reform, (6) 1815—ab
  hospital for, experiences of patient in, (56) 257, (96) 626, (161) 1037, (103) 1187, (87) 1643, (97) 2004
  hydrotherapy in treatment of, (6) 1461—ab
  Maryland hospital for, (124) 1644
  mental processes, sane prototypes of (41) 2187—ab
  physiologic significance of first lesson in, (9) 2233—ab
  reflexes in, (60) 624—ab
Insanity, alcoholic, (49) 349, (95) 626
  and tuberculosis, inheritance of, (19) 628
  caused by acute and chronic intoxications with opium and cocain, *97
  confusional, and dementia præcox, (122) 1553—ab
  genesis and transmissibility, (17)
  incipient, hospital treatment in, (19) 1377
  inheritance of, statistical points in, (23) 1377
  medical expert testimony on, plea for corrective legislation, (93) 1552
  monomania, or partial insanity, plea of, (37) 873
  traumatic, (12) 1549
  what is constituted in? (89) 259—ab
  wit and humor, (34) 1821
Insects, disease transmitting, campaign against, (97) 1740
  in epidemiology of plague, (24) 628—ab
Institutions, state charitable, medical administration of, (74) 169
Instrument and technic for adenoidectomy, (104) 1552
  ear speculum with handle, *1330
  for determination of venous pressure in man, (47) 1464
  for estimation of albumin in urine, *1511
  for separating jaws, (4) 347
  for tonsillectomy, (154) 171, (41) 173
  for treatment in ear diseases, (87) 1552, (55) 1817
  knife for iridotomy, (103) 1466
  motor for bone surgery, (50) 1034
  obstetric perforator, (125) 717
  penis clamp for use in acute gonorrhea, (26) 623
  rectal speculum, (41) 1551
  shovel retractor, for operations on biliary passages, (80) 2097
  simple, for bladder operations, (111) 717
  speculum for vagina with intact hymen, (81) 447
  syringe for removal of foreign bodies from ear, (63) 1193
  tonsil forceps, *1696
  uterine tenaculum, *1695
Instruments, hammer and plessimeter for threshold percussion of heart, (89) 876
  metal, sterilization of, (114) 800
  practical, for kidney surgery, *1927
Insufflation of air in pleural effusion, (59) 1380—ab
  tracheal, in new born infants, (22) 1645—ab
Insurance examination complete, necessary facts for, (92) 352

Insurance indemnity, accident, value of vision in its relation to, (116) 869
  industrial accident, the importance of graphic registration of neuromuscular reactions for, (70) 1039
International-congress of Urology, first, what it has accomplished, (61) 1738—ab
  on tuberculosis, (23) 945
  on tuberculosis, impressions of visitor to, (83) 1819
International Sanitary Convention, proceedings of the third, (12) 1901
Intestinal: See also Intestine
Intestinal anastomosis, *546
  anastomosis, avoidance of infection during, (36) 1731—ab
  anastomosis of mucosæ with rubber sutures, (138) 359—ab
  anastomosis with actual cautery, modification of technic for, (58) 355
  anastomosis without open incisions by basting stitches, (51) 168
  and stomach cases, (9) 1549—ab
  and stomach disturbance, commonly overlooked causes for, (75) 1280—ab
  and stomach gases, (13) 1462—ab
  autoinfection with colon bacillus, (104) 1289
  button, galalith, (61) 356
  canal, flushing with salt solution through multiple enterotomy openings, (107) 260—ab
  fermentation, dyspepsia from, (65) 174—ab
  infection in infants, urinary findings in, (38) 2002
  intoxications, (18) 712—ab
  invagination, pathogeny and treatment of, (44) 629—ab
  juice and human pancreatic, enzymes of obtained through jejunal fistula, (60) 1732
  parasites locating outside of intestine, (59) 954
  putrefaction, substances indicating, determination in breast milk of, (49) 174
  tears, following unoperated appendiceal abscesses and their medicolegal relations, (74) 624—ab
Intestine, amebas in, (30) 256—ab
  Anastomosis of: See Intestinal Anastomosis
  and kidney, functions of, in care of postoperative patients, (27) 866
  and stomach, starch digestion in, (44) 1555
  bursting of, from abdominal straining, (68) 798
  cancer of, and foreign bodies, (57) 2008—ab
  cauterization of inner surface of, glycosuria experimentally induced by, (79) 356
  ciliata of, and parasitic flagellata, cultivation of, (95) 869
  deprived of mesentery, omentopexy to, (4) 1105—ab
  elastic clamp for, (85) 1194
  excision of over fifteen feet of, and perforation of uterus during curettage, (77) 1818
  fevers originating from, in children, (146) 1926
  functioning, tests of, and their results, (74) 175—ab
  gangrene of, invagination versus resection for, *472
  gas cysts of, *1291
  ileus from constriction of, by tube, (81) 632
  increased peristalsis of, with undissolved substances in stools, (61) 1910
  intestinal parasites locating outside of, (59) 954
  large, axial torsion of, in relation to pregnancy and childbirth, (116) 1117
  large, cancer of, (130) 442
  large, cancer of, colectomy for, (47) 629—ab
  large, complete exclusion of, for rebellious hemorrhages in syphilis, (85) 1471
  large, congenital backward displacement of, (62) 1286—ab
  large, traumatic rupture of, operation, recovery, (14) 172
  large, physiologic importance of various segments of, (99) 448—ab
  multiple polypi of, healing intussusception in, (35) 1640
  obstruction of, (121) 870, (167) 1189, (104) 1282, (70) 1904, (127) 1906
  obstruction of, acute, and intussusception, (7) 1106
  obstruction of, acute, and postoperative obstruction, (48) 1641
Intestine, obstruction of, acute, early recognition and operation in, (131) 1553—ab
  obstruction of, acute, in hemophilic, (4) 1111
  obstruction of, acute, principles underlying treatment of, (1) 1549—ab, (83) 1613—ab
  obstruction of, acute, surgical treatment of, (39) 74—ab, (20) 1107
  obstruction of, by gauze sponge, *841
  obstruction of, chronic peritonitis with, *719
  obstruction of, postoperative, (101) 1110
  obstruction of, simulating appendicitis, (15) 1032
  occlusion, postoperative, of, (115) 2012—ab
  paroxysmal excessive secretion of mucus of, (42) 953—ab
  perforation of, in typhoid, (138) 1734
  perforation of uterus with injury of, (122) 1742
  resection of over fifteen feet of, (77) 1818
  restoration of continuity in, following formation of artificial anus, (93) 186—ab
  small, and stomach, perforations of, (19) 1184
  small, fecal obstruction of, and plea for earlier recognition and treatment of intestinal obstruction, (85) 1281
  small, invagination of, from inward protrusion of Meckel's diverticulum, (99) 2194
  small, malignant disease of, (8) 794
  small, sarcoma of, (5) 2233
  small, successful removal of dermoid cyst from mesentery of, (105) 2191
  stenosis of, experimental, elastic tissue in, (132) 717
  stenosis of, from submucous hematoma in hemophiliac, (50) 1909
  stenosis of following strangulated hernia, (48) 2192
  strangulation of, complicating hernia of tube and ovary, (11) 914
  strangulation of, internal, (21) 1107—ab
  tuberculosis of, primary, in adults, (105) 1560—ab
  ulcers, caused by dilatation in, (134) 1474
Intestines and stomach, diagnosis of diseases of, by x-rays, (7) 710
  aseptic operations on, (77) 1040—ab, (39) 2094
  retrograde incarceration of, (103) 1116
  sarcoma of, (68) 2193
Intoxication, Acid: See Acid Intoxication and Acidosis
  from quinin, (133) 267—ab
  ileocolitis with, *2156
  intestinal, in infants, (41) 440
  phosphorus, followed by tetany, (137) 1474
  with bismuth subnitrate and its substitution with bismuth carbonate, (123) 1042
Intoxications and infections, in infants, (43) 1555—ab
Intrapulmonary-positive-pressure methods for maintenance of, *803, (64) 2193—ab
  operations under, *803, *805, *808, (64) 2193—ab
Intubation and oxygen for resuscitation in apparent death, (132) 2197—ab
  arteriovenous, angiosclerotic gangrene and treatment by, (71) 631—ab
  emphysema in skin as accident from, (58) 874
  for diphtheric laryngeal stenosis, (79) 1912
  instrument for, (103) 799
  peroral, appliances for positive lung inflation by, (141) 359
  peroral, technic of, (87) 715
Intussusception (70) 1552—ab, (6) 2092
  and acute intestinal obstruction, (7) 1106
  and Henoch's purpura, (44) 1284
  cause of, (21) 536
  healing, in multiple polypi of intestine, (35) 1640
  of jejunum, (117) 1377
Invagination, intestinal, pathogeny and treatment of, (44) 629—ab
  of descending colon, operative treatment, (181) 87
Iodin and blood, viscosity of, (53) 873—ab
Iodin and thyroid (25) 73—ab
  reduction of size of scar by application of, (96) 956—ab
Iodoform glycerin and constriction hyperemia in surgical tuberculosis, (15) 2093
Ionic medication in pelvic disease of women, (19) 80
Ions, relation of, to fibrillar contractility, (66) 350
Iowa medical laws and their enforcement, (114) 442
  State Medical Society, history of, and its connection with Iowa State University, (102) 949
Ireland, tuberculosis in, (16) 1189
Iridectomy, breaking off of point of knife while performing, (107) 1733
  vs. miotics, in chronic glaucoma, *1389
Iridocyclitis, prenatal, (128) 1188
  sympathetic, treatment of, (118) 352, (127) 1188—ab
Iridotomy, new knife and method for, (103) 1466
Iris and ciliary body, diseases of, (40) 946
  protective influence of, in perforated wounds of cornea, (138) 1037
Iritis, (115) 793
  gonorrheal, (11) 627—ab, (116) 1466
  hypopyon, and acute fibrinopurulent pericarditis in meningococcus septicemia, (44) 1903—ab
  hypopion, with epidemic cerebrospinal meningitis, (129) 1188
Iron, (9) 1901, (9) 2000, (16) 2089
  and hematin, proportions of in blood, (67) 2096
  cutaneous tuberculin reaction with tubercle bacilli substance precipitated with, (72) 631
  in secondary anemia of tuberculosis, (9) 1461
  remedies, use and misuse of, (8) 1735—ab
  splinters in eyes, (140) 718
Irrigation and drainage of bladder after prostatectomy, device for, (80) 948—ab
  rectal, continuous, (149) 870
  rectal, in typhoid, (18, 20) 73—ab
Irritability, varying, period of, and *refractory period in heart muscles,* (70) 350—ab
Ischemic contracture with secondary ulnar neuritis, result of brachial thrombosis, *2095
Ischochymia, (8) 1183—ab
  simulating gallstone disease, (60) 441—ab
Islands of Langerhans, two adenomata of, *1275
Isms and ists, (54) 2188
Isopral, chloral hydrate and bromural, comparative study of dosage and effects of, on cats, *487
Isthmus of Panama, pneumonia on, (10) 1371—ab
Ists and isms, (54) 2188
Itching, causes and treatment, (1) 1466—ab

J

Japan and Korea, (18) 1107
Jaundice, alimentary galactosuria in, (59) 1193
  due to disease of biliary and pancreas passages, (15) 1106
  enlarged spleen, and splenomegalic jaundice, (26) 1736
  epidemic in Talladega, (156) 78
  grave, pathologic anatomy and microbiology of, in secondary syphilis, (43) 1646
  habitual malignant, in new-born infants, (104) 2011—ab
  severe, (48) 174—ab
  significance of, (181) 951, (58) 1034
  splenomegalic, enlarged spleen and jaundice, (26) 1736
  syphilitic, (173) 171
Jaw, cancer of cheek involving, operation in (31) 1730—ab
  lower, dislocation of, device for maintaining reduction, (108) 77
  lower, ivory or rubber substitute for, after exarticulation, (94) 358—ab
  lower, osteitis of, simulating sarcoma, (53) 445
  lower, resection of, osteoplastic substitution after, (103) 2099—ab
  resection of, implantation of piece of rib in pedunculated flap to fill defect after, (89) 1195
Jaws, ankylosis of, (86) 715—ab
  both, temporary turning back of, (139) 359
Jaws, fracture of, (11) 255
  instrument for separating, (4) 347
Jejunostomy, linitis plastica of stomach cured by, (33) 1107
Jejunum and ileum, primary carcinoma of, (49) 797
  carcinoma of, (8) 794
  fistula of, enzymes of human pancreatic and intestinal juice obtained through, (60) 1732
  intussusception of, (117) 1377
Johnson, Samuel, and his court, doctors of, (145) 78
Joint affections caused by infectious diseases, (63) 868—ab
  affections, chronic non-tuberculous, differential diagnosis of, (120) 170
  affections, scarlatinal, (59) 874—ab
  affections, lymph glands in, (162) 86
  bony ankyloses of, transplantation of periosteum in, (56) 1822—ab
  Charcot, (86) 625
  content, absorption of, and structure of synovial membrane, under variable mechanical influences, (67) 1648
  disease, cause of atrophy in, (118) 1553—ab
  disease, tuberculous, treatment by open cut and exposure to sunlight, (31) 354
  metatarsophalangeal, dislocation of, (119) 1473
  metatarsophalangeal, pseudofractures of sesamoid bones of, (67) 798
  sacroiliac, condition of relaxation or strain of, (125) 1734—ab
  tarsometatarsal, surgical intervention in irreducible and old dislocation of, (40) 629
  tuberculosis, Marmorek's serum in, (116) 1553—ab
  tuberculosis, treatment of, (67) 709—ab
Joints and bones, syphilis of, (57) 947
  and bones, tuberculosis of, opsonic therapy in, (32) 256
  and bones, tuberculous affections of, causing hypertrophy in man and dog, (47) 1822
  finger, congenital familial dermatogenic contracture of the, (82) 1825
  finger, pads on, (23) 795
  hemophilic affections of, (53) 1380—ab
  intermittent hydrops of, (28) 167
  non-tuberculous diseases of, (44) 1551—ab
  pathologic non-coaptation of surfaces in, (143) 1013
  resection of, (73) 447—ab
  slight trauma of, clinical and medicolegal significance of, *2211
  stiffening, free bone plastic operations and attempts at transplantation of, (79) 1040—ab
  transplantation of, (133) 85—ab
  traumatic inflammation of, and compensation for industrial accidents, (60) 1380
  tuberculous, diagnosis, prognosis and treatment of, (86) 1819
  whole or half, substitution of, from freshly amputated extremities by free plastic operation, (127) 352

K

Kala-azar, case of, (3) 951
  fatal infectious disease resembling, in natives of tropical America (22) 1816—ab
  fatty liver in, (15) 1467
  in Patna, (41) 445
  intralobular cirrhosis of liver produced by protozoal parasite of, (36) 1038—ab
Kansas City Medical Society, (91) 710—ab
Kant's relations with medicine and pharmacy, (107) 358
Kaolin, (5) 1183
Kaposi's idiopathic multiple hemorrhagic sarcoma, *1205
Kawa root and condurango bark, (79) 1194
Keating-Hart fulguration of vital organs, (69) 875
  lightning treatment of cancer, conditions after, (75) 1739, (97) 2011
  technic, high-frequency apparatus for, (106) 358
Kefir in infant feding, (91) 632—ab
Keloid of scalp, and lobule of ear, recurrent, (86) 1552
Kentucky State Board of Health, (80) 351
Keratitis, diffuse interstitial, in acquired syphilis, *292, (113) 1595—ab

Keratitis, interstitial, due to syphilis (17) 2186
  interstitial etiologic factors in, (135) 1037
  parenchymatous and trypanosome toxin (74) 1911
  tuberculous (70) 1642
Keratoconus cure of (100) 1097
Keratoplasty, (11) 1106
Keratosis laryngis circumscripta (47) 81
Kern-plasma relation theory, (110) 574
Kernig's sign in tetanus (65) 1380
Kidney, acute unilateral hematogenous infections of, (112) 353—ab, (34) 2090—ab
  amyloid healing in, and phenomena of degeneration (1) 2098
  anatomic behavior of suprarenal tissue implanted in, (40) 2005—ab
  and intestine functions of in care of postoperative patients (27) 816
  and liver disease antigens and cellular antibodies in serum in, (94) 1195
  and liver, wandering, fixation of, by suturing through magnesium plates (111) 1651
  and ureter, complete extirpation of for tuberculosis in women, *1[illegible]
  and ureter surgery, (65) 2090—ab
  anomalies (91) 1096
  atrophy of with fistula in ureter, (67) 1739—ab
  calculi, diagnosis and treatment of (106) 1905—ab
  calculi fibrinous in (35) 1972
  calculi in (61) 1556, (58) 1642
  calculi in diagnosis and treatment of (140) 353—ab
  calculi nephrolithotomy subsequent nephrectomy on account of hemorrhage (8) 951
  calculi, temporary hemostasis during removal of (110) 2099—ab
  calculi x-ray diagnosis of (79) 77 (67) 169—ab
  calculus (59) 2003
  calculus and pyonephrosis in pregnant woman induced labor, nephrectomy (18) 1639
  calculus fallacies in x-ray diagnosis of, (19) 1287
  calculus, impacted, symptomatology, diagnosis and treatment of, (65) 258
  calculus, prevention of recurrence, (101) 2195—ab
  changes in, in hemorrhage into pons with high blood pressure, (51) 1468
  colic (94) 2004
  colic, statistical study of, (10) 2232
  contracted and hypertrophy of heart, (79) 1579—ab
  cystic degeneration of, (43) 1033—ab
  decapsulation for nephritis (176) 950 (96) 1740—ab (50) 1909—ab
  decapsulation in eclampsia (189) 87 (25) 261—ab (147) 360
  disease, chromocystoscopy in diagnosis of (9) 2005—ab
  disease, diagnosis of (76) 868
  disease diagnosis and treatment of, (69) 1193—ab
  disease during pregnancy labor and puerperium, (101) 1281—ab
  disease headaches of (65) 1035
  disease lumbago simulating, (67) 1732—ab
  diseases cardiovascular changes in (130) 793
  diseases surgical and appendicitis arterial blood pressure in (65) 356
  excretion of bromids by (61) 350
  excretory efficiency of determination of (93) 256—ab
  experimental studies on in respect to consequences of nephrotomy (79) 1287
  functioning determination of, with cystoscope, (76) 868
  functioning, phloridzin test of, (110) 177—ab
  functioning tests of (178) 87—ab (94) 1049 (107) 1741—ab, (115) 1827—ab (108) 1905
  functioning tests of in children (44) 2191—ab
  fused or horseshoe (137) 1111, (19) 1278
  granular (1) 1038
  heart and aortic insufficiency characteristics of venous pulse in hypertrophy of left heart associated with, (51) 174—ab
Kidney, hemorrhage in fatty capsule of (73) 2047—ab
  hypernephroma of, and tumors of adrenal origin (1) 1460—ab
  idiopathic hemorrhage of, (81) 411—ab
  infarction of cortex of, in pregnancy (31) 1816—ab
  insufficiency importance of early recognition (16) 911
  lesions and pernicious anemia, (42) 355
  lesions in infant, (58, 59) 257—ab
  lipoma of, (11) 2000—ab
  malignant hypernephromata of, atypical forms and their chemical characteristics, (110) 412
  movable, (72) 2011—ab
  movable and visceral ptoses, corset for, *1708
  movable shelf operation for, (23) 2006—ab
  movable, surgical side of, (16) 140
  movable, treatment of, (67) 258
  movable when to operate, (163) 950
  of pregnancy, dropsy and normal pregnancy and pathogenesis of eclampsia (52) 1647—ab
  or liver, cancer of, in small children, (97) 1172
  origin of vesical calculi, *885
  papilliferous cysts of, (108) 869
  pelvis anatomy and surgical exploration of, (65) 81
  pelvis and upper segment of ureter, plastic operations on for hydronephrosis (46) 356—ab
  pelvis suppuration of analysis of symptoms in, (15) 1181—ab
  pyuria without apparent lesion of, (17) 438
  recurrent liposarcoma of, (42) 1903—ab
  region, hemorrhagic purpura following contusion of, (52) 1113
  region, traumatic diffusion of urine in, (33) 173—ab
  results of operation on, for tuberculosis and calculus, (143) 353—ab
  retroperitoneal tumor connected with, simulating ascites from tuberculous peritonitis, (2) 1078
  sarcoma of in infancy (55) 76
  secretion of indigo carmin, methylene blue and sodium carminate, (50) 1108—ab
  secretion probable existence of nerves to excite glands for, (67) 1079
  septic conditions of, and tuberculosis diagnosis and prognosis of, (40) 791—ab
  sigmoid case of, (143) 1111
  substance, influence of reduction of on nitrogenous metabolism, (25) 1184—ab
  suprarenal tissue in, experimental transplantation of, (55) 355—ab
  surgery, (21) 1550—ab, (66) 2091—ab
  surgery, practical instruments for, *1327
  theory of chemical correlation as applied to pathology of (22) 914
  tissue experimental reduction of, and changes in that remaining, (24) 2089
  trauma of fractures of pelvis and femur and impaction of pubic arch in bladder, (87) 948—ab
  tuberculosis of (77) 875—ab, (78) 1186 (86) 1194—ab, (46) 1641
  tuberculosis of, stone, and perinephric abscess, (141) 353—ab
  tuberculosis of, experimental, with induced venous hyperemia, (102) 266
  tuberculosis of, experimental with ligated ureter, (114) 359—ab
  vessels abnormal and hydronephrosis (105) 1652
Kidneys and adrenals, relations between (67) 875—ab
  and ureters 140 operations on, (39) 167—ab
  cystic disease of with pyuria and hemorrhages (10) 2005
  daily variations in work of, on constant diet, (133) 634
  dog isolated surviving flushed with placenta juice, (100) 359
  in pernicious anemia, (105) 266
  operations on when catheterization of ureters, is impossible, (117) 800
  surgical diseases of, diagnosis of, (114) 170
  typhoid localized in (115) 2100—ab
Knee dislocation of congenital operative reduction of (89) 1471
  dissecting osteochondritis of, (51) 1909
Knee, traumatic effusion in, treatment of, (100) 2011
  flexed, backward dislocation of foot and extension dressing with, (121) 450
  joint infections treatment of, (107) 1820 (80) 1901
  joint operations (135) 626
  joint osteosarcoma of (9) 622—ab
  joint, relaxed (11) 167—ab
  joint surgical conditions in, (37) 2089
  joint synovitis of, as late manifestation of acquired syphilis, (6) 1901—ab
  strain fractures of, (11) 791
Knife breaking off of point of, while performing iridectomy, (107) 1733
  for iridotomy, (103) 1466
  or anesthetic, intravesical operations for benign tumors without, (95) 2092
Knock knee, correction of lesser tendency to than in bow leg, (100) 77
Knowledge limits of, (99) 1613, (2) 1820—ab
Korea and Japan, (18) 1107
Korsakoff's psychosis (76) 258
Kraurosis vulvae, (9) 716
Kreatin and kreatinin, excretion of, in health and disease, (42) 1817—ab
Kurloff's bodies in mononuclears of guinea pig blood and their protozoic nature, (62) 1823

L

Lab and pepsin in fundus and pylorus of human stomach, and relations between action of pepsin and concentration of acid, (99) 1041
Labels plain on germ friends (19) 439
Labial, pelvic and abdominal tumor, (7) 2234
Labor and pregnancy complicated by rectal cancer, (42) 1284
  and pregnancy following ventrosuspension of uterus for retrodisplacements (39) 707—ab
  and pregnancy, surgical necessities during (91) 625—ab
  and puerperium fibroids complicating (74) 258
  anesthesia in, (29) 2006
  at term, traumatic rupture of uterus and bladder during *1406
  death of mature fetus in, (92) 77—ab
  dry, uterine action in, (51) 2090
  graduated in pulmonary tuberculosis (68) 1904
  hour glass contraction of uterus during (47) 1279
  in contracted pelvis hebosteotomy vs other procedures in management of (25) 2001—ab
  in occipito posterior positions, (163) 1189
  in private practice (63) 1552
  induced and nephrectomy for pyonephrosis and renal calculi, (18) 1639
  induction of, (116) 1111
  management of to prevent dystocia, (39) 1279—ab
  management of in minor degrees of pelvic contraction indications for abdominal Cesarean section (46) 167—ab
  methods of operation in obstructed (96) 1037—ab
  missed (15) 1377
  morbid dread of as indication for abortion (106) 84
  normal (61) 1552 (66) 1818
  normal, preparation for, (83, 84) 2189—ab
  ovariotomy performed during, (84) 1739 (93) 2094—ab
  pregnancy and puerperium after ventrofixation, (3) 1553—ab
  pregnancy and puerperium kidney disease during, (101) 1281—ab
  premature, and vaginal Cesarean section, for induction of, indications and contra-indications, (30) 1278
  scopolamin morphin anesthesia in, (73) 175—ab (11) 1377
  surgical necessities following, (92) 625—ab
  third stage of, treatment, (86) 1875
Laboratories, medical, visit to some abroad, (24) 945
Laboratory *feeding modern* and range of resources it provides (80) 1376—ab
  limitations of, in medical colleges, (23) 256
  method Sydenham method greater than, (21) 4462—ab
Laboratory methods use of, by general practitioner, (120) 534
  methods value of modern, for practitioner, (104) 169—ab
  state, aids of, in diagnosis and treatment (100) 2005
  worker, and specialist, relation of general practitioner to, (54) 257
Laboring classes obstetric service for and relation of midwife to it in Michigan, (105) 171
Labyrinth acute suppuration of, following otitis media; operation, recovery, (90) 2092
  deafness with tone island, (86) 441
  destruction of, for severe vertigo and tinnitus, (31) 1378
  fistula of, caloric nystagmus test in (108) 1393
  reactions of, and their significance in diagnosis of suppurative labyrinthitis, *1754
  non acoustic functions of, (87) 2092
  non suppurative involvement of, in mumps *1961
  suppuration, diagnosis and treatment of, (141) 950
Labyrinthitis, infective, treatment of after 15 years' experience, (136) 950
  suppurative, reactions of labyrinth and their significance in diagnosis of, *1754
Laceration, circular, of vagina, (137) 1117
  complete perineal, secondary repair of, (70) 2091—ab
  isolated, of mesentery after contusion of abdomen (72) 1648
  perineal (143) 1282
Lachrymal obstruction, (35) 629
  sac extirpation of (7) 442, (86) 1904, (121) 1905
  stricture recurrent traumatic erosion of cornea due to (118) 1905
Lactation abnormal, *1839
  and menstruation, (84) 82—ab
  long *495
  long retained capacity for, in non nursing mothers, (85) 82—ab
Lactic acid bacilli and soured milk in forms of chronic ill health, (4) 870
  cultures in nose, throat and ear work (18) 348
  growth of in stomach content, (101) 876
Laity and physician (75) 948
Lameness intermittent (37) 256
Laminectomy explorative, and circumscribed serous meningitis, (77) 2009
Lamp, quartz, white and blue light of (150) 535
Lancet student's number, (1) 1111—ab
Lanosum, frequency of, in man and in dog, (28) 712
Laparotomies after treatment of, *874 (4) 1371
  after treatment of, care of wounds and preliminary treatment, (132) 1820
  allowing patients to get up early after, (119) 1561—ab, (131) 2197
  during pregnancy, (58) 1375
  50 for various conditions, (84) 1466
  100 without death in country practice (49) 1874—ab
  preparation of patients for, (84) 176—ab
  remote pain following, (98) 1187—ab
Laparotomy, care of patients, after, *834 (4) 1271
  adhesions after, (161) 86
  double for ruptured bile duct, (54) 1409
  early exploratory, in diagnosis of diseases of upper abdominal digestive tract (164) 171
  new dressing for (104) 1110
  phlebitis following (103) 1110
  plea for early exploratory in gastric diseases of doubtful nature, (73) 624—ab
  preparatory and after treatment of, *739
  radical for carcinoma of cervix uteri (6) 1554—ab
  35 cases of extrauterine pregnancy without death, dealt with by, (5) 1068
  to hasten recovery after, by allowing patients to leave bed early, (57) 355—ab
Larvae, dipterous, infection of man by (37) 2002
Laryngeal complications in typhoid, (69) 1994
  crises and paresis of abductor of vocal cords, *815
  diphtheria, (127) 270, (114) 1185

- Laryngeal disturbances in beriberi, (54) 174
- Laryngectomy for carcinoma of larynx, *1072
- Laryngismus stridulus, (106) 1826—ab
- Laryngitis, chronic, (172) 950
  - tuberculous, prognosis and treatment of, (62) 1818—ab
- Laryngology, diagnosis and therapy in, without specialist training, (81) 1739
  - rhinology and otology, borderline of, *361
- Laryngoscopy, (24) 348, (85) 948, (178) 951
  - bronchoscopy and esophagoscopy, (26) 1467
  - laryngeal growth removed by, (130) 870, (36) 1551
  - laryngeal stenosis treated by, (23) 707
- Laryngostomy, (131) 78
  - and tracheolaryngostomy for stenosis of larynx or trachea, (35) 537, (59) 1039, (50) 1380
- Laryngotracheostomy, chronic laryngotracheal stenosis cured by, (126) 450
- Larynx, ablation of, late asphyxia after, (79) 1739
  - and pregnancy, (92) 716—ab
  - angiomyxosarcoma of, with expulsion of large tumor, (108) 1552
  - chronic stenosis of, cured by laryngotracheostomy, (126) 450
  - congenital diaphragm of, (131) 870
  - congenital stridor of, apparently due to enlarged thymus, (135) 1188, (148) 1282
  - Crises of: See Laryngeal Crises.
  - diphtheritic, stenosis of, intubation for, (79) 1912
  - etiology and treatment of singers' nodules in, (92) 1040—ab
  - fracture of, (102) 169
  - growth in, removed by direct laryngoscopy, (130) 870, (36) 1551
  - laryngectomy for carcinoma of, *1072
  - method of facilitating operations in, (6) 535—ab
  - neoplasms of, in America, (91) 441
  - new mechanical devices in treatment of diphtheria of, (82) 625
  - or trachea, laryngostomy and tracheolaryngostomy in cure of severe chronic stenosis of, (59) 1039, (50) 1380
  - papilloma of, in children, (92) 2002
  - paralysis of, with cervical tumors simulating enlarged glands, (22) 1467
  - paralysis, recurrent and abductor of, (15) 255, (6) 706, (6) 865—ab, (82) 2092
  - stenosis of, treated by laryngoscopy, (23) 707
  - stenosis of, treatment including intubation by dorsal method, 621—ab
  - trachea and esophagus, direct examination of, (25) 1467, (3) 2005
  - tuberculosis of, (80) 259, (27) 623, (31) 866—ab, (121, 157) 1037
  - tuberculosis of, surgical emergencies with, (106) 1552
  - unrecognized foreign body in, (90) 441
- Latah and crime, (10) 710
- Laundry employees, frequency of tuberculosis in, (46) 355
- Lavage gastric, and test-meal removal, divice for facilitating, *673
  - of bladder, apparatus for, (70) 264
  - rapid method of, for test meal removal and inflation of stomach, (81) 1280—ab
- Law and medical experts, codes of criminal procedure of European countries, (16) 2001—ab
- Laws regulating elimination of sugar in diabetes, (135) 634
  - vital statistic, of Texas, imperfections and possible remedy, (91) 793
- Layman, clinician and pathologist, correlation of, *191
- Lead-poisoning, (134) 1111
  - cause of, in tinning of metals, (27) 2191—ab
  - curiosities of, (126) 442
  - diagnosis and prophylaxis of, (139) 267
- Lecithin, action of, in exophthalmic goiter, (43) 1464—ab
  - general anesthesia and, (122) 1117—ab
- Lecithin, how to obtain typhus toxin with, and its immunizing action, (74) 715
  - precipitate reactions with, (2) 1729
- Leech, gnathobdellid, (Limnatis sp?) from Angola, (51) 1039
- Leg: See also Legs
  - bones shortened, lengthening, by operation, (42) 256
  - congenital pseudarthrosis of, treatment, (116) 84
  - fractures, treatment of, (131) 1111
  - gangrenous tumor of, in natives of east Africa, (105) 1650
  - pressure bandage for, (86) 77
  - right, and external genitals, congenital varices of, (3) 1549
  - varicose veins of, and varicose ulcer, treatment, (131) 442
- Legal indemnity and accident insurance, value of vision in its relation to, (70) 1109
- Legislation and infant mortality, in Great Britain, (15) 1189
  - corrective, plea for, of medical expert testimony on insanity, (93) 1552
  - medicolegal, is it needed in South Carolina? (124) 870
  - public health, (90) 710—ab
- Legs and arms, intermittent limping in, (114) 1741—ab
  - malingering and functional paresis, detection of, *1309
  - symmetrical gangrene of, in infectious diseases, (116) 1914
- Legumelin, hydrolysis of, from pea, (46) 1731
- Leiomyoma, suppurative, of stomach, with hour-glass contraction, (109) 1466
- Lemonade, sciatica from, 1081—ab
- Lens, adjustable for oblique illumination of eyes, (14) 2000
  - crystalline, developmental deformities of, *1051
- Lenses especially adapted for estimation of bifocal vision, (131) 1037
- Leprosy, (27) 354
  - apparently cured with x-rays, (12) 1729
  - complement-binding test in, (171) 87
  - rat, *1153
  - serum diagnosis of, (78) 875
  - tubercular, (10) 1549
  - x-rays and high-frequency current in, (42) 1112—ab
- Leucocidins and hemolysins in anaërobic cultures, (50) 445
- Leucocyte count for diagnosis of inflammatory gynecologic affections, (111) 877
  - count in abdominal surgery, (5) 1276
  - count in diagnosis of abdominal neoplasms, (76) 1904
  - ferment, proteolytic, importance of, in pathologic physiology (96) 2099—ab
  - formula in primary anemia, (102) 799
  - granula, eosinophile, properties of, (108) 1650
  - resistance line, Sonder's differential, in diagnosis and prognosis of acute appendicitis, (85) 625—ab
- Leucocytes and bacteria, contrast staining of, in research on phagocytosis, (61) 630
  - in appendicitis, (29) 1640, (44) 1641
  - in diphtheria before and after administration of antitoxin, (74) 1186—ab
  - in milk, effect of heating on determination of, (57) 1108
  - influence of atoxyl on, (115) 717
  - injected, for tuberculous lesion, (87) 77
  - neutrophile, Arneth's classification of, and its application in pulmonary tuberculosis, (22) 2006—ab
  - of rabbits and guinea-pigs, bactericidal action of extract of, (61) 1039
  - polymorphous neutrophile, in typhoid, (105) 800
  - with Sudan-staining granules in croupous pneumonia, (98) 956
- Leucocytic changes in blood, physiologic importance of, in infectious, disease, (71) 174
- Leucocytozoon, genus, avian hæmoprotozoa of, (33) 1190
- Leucoma adherens, glaucoma as consequence of, (27) 1283
- Leukanemia, (30) 1550—ab, (63) 2093
- Leukemia, (80) 792
  - acute lymphatic, and chloroma, (31) 262—ab
  - acute lymphopenic lymphatic, (29) 866
- Leukemia, acute myeloid macrolymphocyte, with peculiar inclusions in cells, (117) 1826
  - acute, proteolytic ferments of large lymphocytes in, (24) 1184
  - complicated by synovitis in youth, with ichthyosis, (30) 1378
  - infantile lymphoid, with nucleated corpuscles, (43) 355
  - lymphatic, cirrhosis of liver following, (68) 539—ab
  - myelogenous, treated with x-ray, (54) 708—ab
  - myeloid, histogenesis of, (142) 86
  - myeloid, intramuscular myeloma and hematoma as complication of, (53) 174
  - nature and treatment of, (70) 356—ab
  - temporary improvement in, under tuberculin, (70) 174—ab
  - x-ray in, (81) 77, (95) 1036
- Leukoplakia, differential value of, (55) 445—ab, (60) 446—ab
- Levator ani and prolapse of genital organs, (59) 81
- Levulosuria, alimentary, (109) 177—ab
- Liability, employers' for injury or illness, (23) 2190
- Libraries, medical, for smaller centers, (100) 793—ab
  - public, medical departments of, (146) 78
- Lichen planus annularis, *128
  - plano-pilaris, in which spinous element predominated, (13) 2235
- Life and energy, chemical rays promotors of, mode of action and therapeutic uses, (13) 1278
  - duration of, after extensive hemorrhage of brain, *2101
  - early, chronologic and anatomic age in, *1197
  - everyday, rationalization of, (43) 2187—ab
  - expectancy, relation of heredity and environment to, (75) 2091
  - insurance examiner, (121) 1111, (78) 2091
  - insurance medical examination, (148) 870
  - modern, and its effects on types of disease, (109) 442
- Ligament, broad, plication of, for uterine retroversion, (28) 2001
  - right broad, retroperitoneal cyst involving, (20) 1278
  - round, fibromyoma of, (57) 1469—ab
  - round, tumors in, (75) 1287—ab
- Ligaments, round, intraperitoneal shortening of, (125) 1561—ab
  - round, shortening of, and ventrofixation, (23) 2001—ab
- Ligation of abdominal aorta, experimental, (101) 799—ab
  - of left iliac artery, (33) 790
  - of umbilical cord, *917
- Ligature, elastic, in cases of anal fistula, advantage of, (29) 1107—ab
  - non-absorbable, (40) 74
- Light, (117) 1819
  - and moving air baths, in general affections, (72) 1470—ab
  - artificial, diagnosis under, (68) 1552—ab
  - colored, influence of, on course of inflammation, (83) 1559—ab
  - concentrated white, lupus showing effect of treatment of, (111) 1111
  - in treatment of disease at Boulder Lodge Sanatorium, (9) 255
  - ultra-violet, influence of, on lens, (142) 170
- Lightning and electricity, injuries from, (78) 715—ab
  - treatment of Cancer: See Keating-Hart
- Limbs, deformities in, (120) 634
  - frequency of necrosis of, after ligation of large trunk vessels, (50) 797—ab
  - organs and blood vessels, transplantation of, *1662
  - paralyzed, hypodermic use of strychnin in, (61) 1903
- Lime and magnesium deposits, solvent action of sulphocyanates on, in system, (6) 621—ab
  - content of body, and parathyroids, (88) 1194
  - diet to reduce proportions of, in arterial atheroma, (52) 2007
  - dust, accidental inhalation of, tuberculosis apparently cured by, (51) 1817
  - in origin and treatment of convulsions, (128) 1743—ab
  - metabolism, and tendency to spasm in children, (57) 874—ab
  - metabolism, influence of phosphorus-cod-liver oil on, (92) 265
- Lime workers, tuberculosis in, (14) 2093—ab
- Limping, intermittent, and obliterative arteritis, (5) 710
  - intermittent, in arms and legs, (114) 1741—ab
- Linea alba, hernia in, (31) 945—ab
- Linitis plastica of stomach cured by jejunostomy, (33) 1107
- Linnaeus, Charles, (144) 78
- Lip: See also Lips
  - mixed tumors of, (21) 2236
  - reading for partially deaf, 822—ab
- Lipase, catalytic action of, and acidosis, (49) 947
- Lipoidemia, diabetic, (61) 1823—ab
- Lipoids, (30) 796, (53) 1113
  - are they bactericidal elements of pyocyanase? (121) 1290
  - importance of, from medical point of view, (41) 1191
  - in hemolysis, (47) 713
  - in pyocyanase, (117) 266
- Lipolysis, importance of, and fat-splitting properties of syphilitic sera for diagnosis of syphilis, (57) 797
- Lipoma, congenital, and tail-like formations in man, (122) 634
  - of foot, diffuse painful, (8) 1466
  - of kidney, (11) 2000—ab
  - retroperitoneal, (62) 81—ab
  - retroperitoneal, successfully operated on, (39) 1737
  - subperitoneal, incarceration of hernia by, (99) 2011
- Lipomatosis, symmetrical, (50) 538—ab
- Liposarcoma, recurrent, of kidney, (42) 1903—ab
- Lips and cheek, mixed tumors of, (43) 629
  - contagious diseases of, bacteriology of, (32) 173
- Liquor and drug addictions, neurasthenia and, (174) 171
- Litholapaxy as office operation, (40) 1551
- Lithopedion, ovarian pregnancy terminating in formation of, (64) 1113
- Litter, improvised horse, (120, 122, 127) 950
- Liver abscess, (37) 1737
  - abscess, amebic, as preventable disease and postoperative sepsis as important lethal factor, (14) 1821—ab
  - abscess and dysenteric amebas, (17) 1820
  - abscess and hydatid cyst, differential diagnosis between, (132) 1743
  - abscess, aspiration and injection of quinin in, (16) 1820
  - abscess, diagnosis of, (25) 2186
  - abscess of amebic origin in monkey, (45) 1039
  - abscess, tropical, (11) 1820
  - abscess, tropical, cured by flexible sheathed trocar, (7) 1906
  - abscess, tropical, is dysentery sole cause of? (15) 1821—ab
  - abscess, tropical or amebic, as preventable disease, (29) 1907—ab
  - abscess, tropical, prevention of, (28) 349—ab
  - acute yellow atrophy of, (113) 170
  - acute yellow atrophy of, with pneumonia, in girl of 10, (100) 266
  - affections after intravenous injections of adrenalin in rabbits, (87) 447
  - affections, diagnosis of, (85) 876—ab
  - affections, importance of urobilinuria in diagnosis of, (106) 633
  - affections, syphilitic, protracted fever in, (66) 1193—ab
  - atrophy and hyperplasia in consumptives, (101) 1472
  - carcinoma, primary, of, (126) 1474
  - cells, histology of, (39) 173
  - cells, light-colored, (45) 713
  - chemistry of, in chloroform necrosis, (41) 1731
  - Cirrhosis of: See Cirrhosis of Liver
  - colic, statistical study of, (10) 2233
  - compensatory and regenerative changes in, (17) 1735
  - cough, (131) 1562—ab
  - degeneration of, following chloroform narcosis, (35) 1463—ab, (81) 1643
  - deprived of portal and systemic blood supplies, influence of stimulation of great splanchnic nerve on disappearance of glycogen from, (55) 1108
  - displaced, gaseous abscess in, (44) 355
  - epithelioma of, with cirrhosis, (120) 1381—ab

Liver fatty, in kala-azar, (15) 1467
  glycogen and structure of liver cell (127) 634, (129) 1043
  glycogen, during starvation, (116) 2100
  in schistosomiasis, (82) 1185
  inflammation of, and lymphangitis and perilymphangitis, (26) 73—ab
  left lobe of entirely torn off, recovery, (85) 1288
  lesion syphilitic, and Malta fever, (115) 1914
  massive collapse of, (1) 2005—ab
  or kidney cancer in small children (97) 1472
  pathologic anatomy of, (90) 2008
  proliferation of connective tissue of Glisson's capsule, (43) 1191
  resection of portion of, (33) 1555—ab
  rupture of, (78) 1552
  ruptured, complications of, (53) 1465
  sarcoma, primary of (144) 268, (107) 800—ab, (32) 1040
  suturing, magnesium plates as aid in (111) 1651 (124) 1914
  symptoms in cardiac disease, (7) 166
  syphilis, (96) 1033
  syphilis diagnosis of, (107) 1905
  structure of lobule of, under influence of splanchnic nerve, (130) 1043
  tuberculous cavities of, tuberculosis of stomach, (142) 1111
Liverpool rat virus, epidemic of enteritis due to, (15) 2190
Localization of foreign bodies by new method (23) 1283
Lochia and vaginal secretion, experiments with mixed infection of, (60) 2192
Locomotor Ataxia See Tabes Dorsalis
Lodging house under public health acts amendment act, 1907, (15) 1111
Lombroso on appalling increase of crime in our country, (23) 1275
London poor, dental needs of, (16) 261
Lumbago simulating kidney disease, (67) 1732—ab
Lumbar puncture in diagnosis and therapeutics, *1566
  in psychiatric diagnosis, (63) 954, (102) 1116
  technic and mishaps, (157) 1475
  technic of, and value of cytodiagnosis in differentiating tuberculous meningitis from epidemic variety, (97) 1819—ab
Lumière process of color photography, employment of, in medicine, (126) 1734
Lunacy, medical examiners in, their responsibility, (87) 1036
Lung abscess chronic, operative treatment of, (83) 1040
  abscess from ascending infection from appendicitis, (16) 1549
  affections following accident, (108) 84—ab
  affections, severe, chronic, unilateral, treated by compression of lung, (88) 265
  affections treated by vaccines controlled by opsonic index, (32) 80
  affection unilateral higher temperature in (107) 1650—ab
  and chest wall, operative mobilization of in treatment of unilateral pulmonary tuberculosis, (99) 1116
  and esophagus fistula between, (66) 1114—ab
  and pleura, reactions of surface of, (6[illegible]) [illegible]
  case unusual (21) 172
  cavity, operative treatment of, (113) 415
  complications postoperative of nature of embolism, (57) 1556—ab
  compression of in severe, chronic, unilateral pulmonary affections by, (88) 265
  disorders and Colorado, (117) 1644
  emphysema of, operative treatment, (98) 85—ab
  empyema and gangrene of complicating typhoid in child, (61) 257
  excision of portion of, (27) 1907
  extirpation of, restoration of balance in regard to space in thorax after, (54) 1909
  induration of apex of, from obstructed nose breathing, differential diagnosis (93) 876
  gunshot wounds of treated by primary suture, (82) 1471—ab
Lung inflation, positive, by peroral intubation, appliances for, (111) 350
  release of, and mobilization of wall of thorax, in unilateral pulmonary tuberculosis, (53) 1909—ab
  right, embolic (thrombotic) atelectasis of middle and lower lobes of, survival, (2) 1466
  rudimentary segments of, in cattle, (99) 1913
  rupture of, fracture of ribs and pneumohemothorax, (34) 1378
  swelling and rigidity of, (142) 1475
  syphilis of, in adults, (147) 268—ab
  tuberculous, *influence of artificially* induced pneumothorax on, (66) 1558—ab
  ventilation in disease, (17) 1111
Lungs acute affections of, in children, (23) 536
  bronchitic and postpneumonic processes of, obliteration in, (129) 1474
  concrements in, and treatment with silicic acid, (63) 874
  effects of quebrachin on, *1593
  heart and blood vessels, diseases of thoracic viscera including, (97) 1281
  importance of making patient cough during auscultation of, (160) 1037
  inflammation of, fatal, from inhalation of ammonia, (66) 1823
  injury of, in simple fractures of ribs, treatment of complications from, (60) 1556
  murmurs over, (98) 511
  occluding embolism of, (37) 74—ab
  surgery of, artificial intrapulmonary positive pressure in, *803, *807 *808, (63) 2193—ab
  syphilis of, (49) 1192—ab
  tuberculosis of, (150) 78
  tuberculosis of, and pleurisy, (9) 166
  tuberculosis of, corn oil in *29
  tuberculosis of, diagnosis, (76) 165, (96) 176—ab
  tuberculosis of, early symptoms of, (81) 259
  tuberculosis of, medical treatment, (111) 169
  tuberculosis of, opsonic index in, (31) 80
  tuberculosis of, tuberculin in diagnosis of, (26) 348—ab
  tuberculosis of, treatment of, (59) 76
  tuberculosis of, x-rays as aid to diagnosis of, (64) 1904—ab
Lupus *erythematosus*, (9) 1106—ab, (1) 1906
  erythematodes and tuberculids in general, (109) 1116
  inoculation treatment of, (35) 80
  of penis, tuberculin cure of, (40) 2187
  phototherapy of, (54) 2096—ab
  showing effects of treatment of concentrated white light, (111) 1111
  treatment of, (103) 632—ab, (133) 1743—ab, (71) 2097
  tuberculin salve in differentiation and treatment, (61) 174—ab
  vulgaris, treatment of, (20) 1821—ab
  vulgaris, treatment of, by unmodified sun rays, (19) 1821—ab
Lymph *current retrograde, from thoracic* duct, possibility and importance of, (94) 876
  dog, differential counts of cells in and bearing on hematology, (158) 879
  excess of chlorids in, (67) 350—ab
  glands, in joint affections, (162) 86
  glands, removal of, (12) 711
  glands, sarcoma of, simulating granuloma, (83) 539—ab
  lymphagogue action of, (68) 350—ab
  new diseased, proliferation of, (95) 2098
  node in cervical mucosa, (113) 1651
  nodes, tuberculous cervical, early operation for, (34) 1033
Lymphadenia, aleukemic, of endotheliomatous nature, (57) 713
Lymphagogues, and adrenalin, antagonistic action of, (69) 539—ab
Lymphangioma, symmetrical, of salivary glands, (87) 632
  tuberosum multiplex, (143) 1820
Lymphangitis of liver, and inflammation, (26) 73—ab
Lymphatic apparatus in children, (86) 82
  diseases in tropics, (20) 1906
  organ effect of repeated injections of tuberculin on (11) 1031
  system and thyroid, (123) 250
Lymphatics, constitutional predisposition of, to disease, (107) 177—ab
  sclerosis of, corresponding to arteriosclerosis, (150) 1475—ab
Lymphocytes, large, proteolytic ferments of, in acute leukemia, (24) 1181
Lymphosarcoma, of dogs, transplantable, transfusion of blood in, (91) 869
Lysol, maximum of elimination of cresol in dog after administration of, (119) 634

M

Madagascar plant as remedy for dysentery, (41) 1646
Madelung's deformity, reversed form of, (94) 799
Magnesium deposits and lime, solvent action of sulphocyanates on, in system, (6) 621—ab
  plates as aid in suturing liver, (124) 1914
  plates, fixation of wandering kidney and liver by suturing through, (111) 1651
  sulphate in tetanus (15) 530—ab
  sulphate, intraspinal injections of, in chorea, (53) 2192—ab
  sulphate solution in erysipelas, local use of, (91) 259—ab
Maladies, imaginary, rôle of physician in producing or maintaining, (47) 1374—ab
Malaria, (6) 2233
  and early tuberculosis, differentiation of, (11) 1371
  and meteorologic conditions, (152) 1044
  as cause of purpura hemorrhagica, (61) 2003—ab
  atoxyl in, (116) 266
  campaign against in Calabria, (155) 1475
  cirrhosis of liver in, (10) 791
  endemic at Leipsic, (101) 1826
  fatal pernicious, abundance of parasites in, (5) 442
  hematuria due to, (85) 259
  in Algiers, efforts to eradicate, (48) 445
  in children, *916
  in Greece, (28) 537, (15) 706
  in Greece in 1907, and antimalaria league, (141) 1118
  latent, diagnosis of, (18) 1907—ab
  on Isthmus of Panama, (7) 2000
  pernicious, (63) 1375, (83) 1733—ab
  pernicious, pathogenesis of, (12) 530—ab, (135) 870
  prophylaxis and treatment, (62) 2003
  quartan, in West Africa, (21) 73
  quinin and urea hydrochlorid in diagnosis and treatment of, (25) 1550—ab
  rare nervous symptoms produced by, (19) 1906
  what we should know about it, (50) 791, (54) 1034, (39) 1641—ab
Malformation, rare, embryologic study of, (120) 359
Malformations of arm, (104) 2194
  rare, (68) 2097
Malignant Disease See also Cancer, Carcinoma, and Sarcoma
  cytolytic factor occurring in blood serum in, *915
  in lymphatics of groin, (21) 80
  infection of operative wounds by, *748
Malignant growths, superficial, surgical technic for removal and cure of, (141) 676—ab
Malingering and functional paresis of lower extremities, detection of, *746, *1309
  case of, (36) 629—ab, (30) 1645—ab
  gangrene, (44) 173—ab, (40) 263
Malleolus, amputation above, with osteoplastic operation on calcaneum and tibia, (46) 1822
Malnutrition and society, (15) 1278—ab
Malocclusion, treatment of, (7) 353
Malpractice from physician's standpoint, (138) 1820
  suits protection from, (130) 534—ab
Malta fever and syphilitic liver lesions, (115) 1914
  blood in, (154) 360
  morphology of bacilli of, (142) 1118
  specific sensitizer in, serum in, (63) 1039
Mammæ See Breast
Man and animals, absorption of fat under pathologic conditions in, (114) 1826
Man chorioepithelioma in (88) 876—ab
  frequency of lanosum in, (28) 712
  health of, and plants, chemistry and effects of bituminous coal smoke on, (8) 1815—ab
  in Florida, proliferating cestode larva in, (98) 1110—ab
  infection of, by dipterous larvæ, (37) 2002
  jugular pulse of, (30) 439—ab
  obese, respiratory metabolism of, fasting and after eating, (132) 634
  protozoal diseases in, (56) 1039
  venous pressure in, instrument for determination of (47) 1464
Mania, recent, cause and treatment, (30) 1190—ab
Marasmus, (139) 442
  infantile, (17) 80
Marmorek's serum, (76) 715
  negative experiences with, (106) 1289
Marriage and intermarriage of tuberculous subjects, (129) 1644
  and presumably cured gonorrhea, *1925
  from medical view point, (9) 865
Maryland hospital for insane, (124) 1644
  state sanatorium, (139) 260
Mask, covered with towel in chloroform anesthesia, (183) 87
Masks and gloves advisable in surgery? (31) 1107—ab
Massachusetts State Hospital for inebriates and dipsomaniacs, (82) 2189
Massage, abdominal, apparatus for, (113) 800
  and mobilization in treatment of fractures, (11) 1554—ab
  electric, of abdomen, (46) 1374
  gynecologic, in plastic infiltration and pelvic exudates, (47) 1113
  subdiaphragmatic, resuscitation of heart by, (110) 1187—ab
  vibratory, (129) 85
  vibratory, in eye disease, (134) 1188
Mastitis See also Breast
  puerperal, treatment of, (74) 1649—ab
Mastoid and intracranial complications and chronic recurrent suppurative otitis media, (59) 1732, (88) 2092
  disease, simulation of, by furuncle of external meatus and periauricular abscess, (59) 1280
  disease without classical symptoms, diagnosis of, (117) 949
  increase of specific gravity of pus in acute suppurative otitis media as indication for opening, and errors connected with Hammerschlag's method, (139) 1906
  operation cure by of deficient cerebration from chronic purulent otitis media, (144) 950
  operation, Heath, (96) 2092
  operation, indications for (52) 791, (71) 868—ab, (161) 1189
  operations in children, unusual, (90) 869
  operation, radical, for chronic purulent otitis media, (5) 1461
  operation, radical, septic thrombosis of cavernous sinus following, on seventh day, (40) 1646
  spontaneous exenteration of, from acute otitis media, (173) 950
Mastoid tympano, operation, stapes in relation to, (123) 1734
Mastoiditis, (35) 1551
  acute indications for operative interference in, (73) 868
  acute, non operative, operative and postoperative treatment, (186) 171
  acute, unusual termination of case of, (69) 1280
  apparatus for applying cold in, (136) 85
  can we always know when to operate for? (184) 171
  chronic meato mastoid operation in, *1062
  complicated by atypical and typical cases of sinus *thrombosis*, (140) 950
  complicated by purulent meningitis encephalitis and phlebitis of sigmoid sinus jugular bulb and internal jugular vein, (83) 1552
  double, sigmoid sinus and jugular thrombosis (85) 1552
  in aged, (84) 1552
  primary, (66) 948
  suppurative, thrombosis of lateral sinus and internal jugular vein following caused by acute purulent otitis media, (65) 624

- Mastopexy for pendulous breasts, (88) 1381
- Masturbators, stomach disturbances in, (77) 955
- Materia medica, hygiene and state medicine, (66) 1375
- *Maternal impressions*, (101) 169
  - infection, prevention of, (90) 1036
- Maternity, effect of overcivilization on, (35) 1902—ab
  - technic, modern, evolution of, (10) 1279
- Matter and energy in vital processes, (56) 1647—ab
- Maxilla and hard palate in primates, (26) 1111
- Maxillary Antrum, Maxillary Sinus: See Antrum, Maxillary
- Mayo's surgical clinic, (155) 171
- Meal, test, extraction of, (143) 626
  - *test, rapid removal, by lavage and* inflation of stomach, (81) 1280—ab
- Measles and red light, (54) 873—ab
  - and scarlatina, complicated by otitis media, treatment of, (48) 1279—ab
  - bacteriologic research on, (77) 1912
  - complications and sequels of, (34) 349
  - epidemic, atypical features of, in Vienna, (70) 1380
  - cutaneous *tuberculin reaction* during, (61) 798—ab
  - in utero, (17) 1372—ab
  - nephritis as complication and sequel of, (116) 1282
  - prophylaxis of, systematic inhalation of hydrogen dioxid in, (99) 176
  - tuberculous allergy test during, temporary suspension of, (118) 266
- Meat, are yeast extracts justifiable as substitutes for extract of? (9) 1038
  - *Juice, reaction of dry gelatin to* moisture and its importance for preservation of, (123) 1473
  - poisoning, (65) 951—ab
- Meatus: See also Ear
  - external furuncle of, and periauricular abscess, simulation of mastoid disease by, (59) 1280
- Mechanism of anaphylaxis in regard to serum, (33) 712
- Mechanotherapy, scientific, and so-*called osteopathy*, (56) 440
- Mediastinal and bronchial glands, enlarged, physical determination of, (81) 715—ab
  - tumors, (102) 352
- Mediastino-pericarditis, chronic adhesive, surgical treatment of pericarditis and, (52) 954—ab
- Mediastinum, anterior, traumatic abscesses of, (78) 1114—ab
  - posterior, spondylitic abscesses in, (74) 1114—ab
  - *tumors of*, (45) *897
- Medical advance, currents and counter-currents in, (19) 1550—ab, (65) 2091—ab
  - affairs, spirit of 1908 in, (41) 349
  - aspect of duodenum, (148) 1037
  - books ten years old, are they valueless? (71) 1904
  - cases in surgical practice, (19) 2006
  - college, American, entrance requirements, (64) 1818
  - colleges, desirability of instruction in psychotherapy in, and its introduction at Tufts, (2) 1549
  - colleges, early, and legal regulation, (11) 348
  - colleges, *entrance requirements* in Minnesota, (25) 348
  - colleges, French, admission of foreign students to, (71) 82
  - colleges, laboratory in, limitations of, (23) 256
  - colleges, London, addresses delivered at opening sessions, 1908-09, (25) 1645
  - education, fifty years of, (5) 1554
  - education, higher, (187) 951
  - education in U. S., need of uniform standard, *566
  - education, medical license and future *of medicine*, (82) 1643
  - education of public, (70) 1280—ab
  - education, standard of, (14) 438, (68) 1109
  - ethics, (91) 1186
  - ethics, and physician, (97) 1733
  - evolution, (134) 870
  - examination, life insurance, (148) 870, (78) 2091—ab
  - examiners in lunacy; their responsibility, (87) 1036—ab
  - expert in court, (54) 1903
  - expert, shall average country practitioner *testify before our* juries as, (92) 1819—ab
- Medical expert *testimony*, (61) 868-ab, (53) 1034, (137) 1188, (108) 1644
  - experts and law, and codes of criminal procedure in Europe, (16) 2001—ab
  - history of early St. Louis, glimpses of, (22) 727
  - inspection of schools, (7) 535, (13) 627, (64) 948—ab, (119) 1377, (38) 1379
  - institutes, *1330
  - journals and publication of society papers, (79) 2189—ab
  - jurisprudence and expert testimony relating to eye, ear, *nose and* throat, (111) 1377
  - laws of Iowa and their enforcement, (114) 442
  - legislation; suggestions for Arizona Medical Association, (87) 1466
  - license, medical education and future of medicine, (82) 1643
  - need, (42) 349
  - organization, (96) 259—ab, (73) 441, (113) 442, (132) 626, (88) 710—ab
  - practice in Canton, China, (65) 1109
  - *preparations, evils in production* of, (90) 1288—ab
  - Press and Circular, educational number of, (35) 1284—ab
  - *problems, mechanico-biologic stand*point in, (10) 1462, (13) 1815
  - profession, (113) 1819
  - *profession* and housing problem, (6) 1106
  - profession and public, (64) 709—ab, (146) 870, (58) 1185, (4) 1461—ab
  - profession, and public health work, (131) 170
  - profession losing faith in alcohol, (101) 1377
  - profession, needs of, (81) 1732—ab
  - profession, responsibility of, for use *of nostrums*, *2022
  - profession, status of, (66) 169
  - profession, temperance pioneers in, in last century, (91) 1466
  - *progress, Brooklyn's contribution* to, (107) 949
  - progress in Orient, (141) 1820
  - publicity, (116) 442
  - research, opposition to, *635
  - school, first American, (12) 1462—ab
  - Schools: See Medical Colleges
  - science in Northland during middle ages, (142) 1743
  - science, touring lands where it was evolved, (25) 1462
  - service, national, proposal for, (100) 1733
  - service of United States Marine Corps, (107) 1187
  - services, poor-law, public health and, (29) 1112
  - *society, county*, (94) 1904
  - society, county, its work, (136) 1282, (72) 1375
  - Society of State of New York, lives of officers of, (104) 793, (88) 1110, (51) 1641, (62) 1903
  - students, French and German for, (11) 1466
  - students, plea for more liberal education for, (27) 1278
  - studies, public medicine and hospitals, (24) 1645—ab
  - supervision of schools, (64) 948—ab
  - terms, use of Greek in, (38) 797, (55) 1286
  - texts for midnight sermons, (60) 791
  - *thoughts, fads, facts and fancies*, (120) 1377
  - work in Philippines, (55) 1903
  - writings, *incorrect phraseology in*, (95) 534
- Medicine, ancient Greek, (16) 1815
  - and pharmacy, *1832
  - and pharmacy, Kant's relations with, (107) 358
  - and pragmatism, (113) 626
  - and surgery, advances in science and their bearing on, (1) 1553—ab
  - and surgery, evil tendencies of, (2) 2088—ab, (18) 2234—ab
  - and surgery of *Northwest, organi*zation and centralization of, (67) 1109—ab
  - and surgery, oxygen in, (137) 626—ab
  - Arabian and Avicenna, (145) 531
  - College of, of University of Southern California, inauguration of 24th annual session of, (114) 1819
  - faucet vacuum pump in, (74) 1470
  - future of, (29) 531, (82) 1643
  - history of, in province of Quebec, from 1535 to 1838, (11) 530
  - human element in, (21) 1901—ab
  - ideal in, (74) 868—ab
  - ideas and ideals in, (72) 1186—ab
  - in Canada, (106) 1644
- Medicine, inherent spirit of, (158) 1037
  - just perspective in, (1) 1734—ab
  - master-minds in—John Hunter, great man of science and surgeon, (103) 442
  - modern, (2) 791—ab
  - of future, (93) 77
  - practice of, (123) 1377
  - practice of, regulation of, by state, (74) 2091—ab
  - practice of, studies on circulation and their importance to, *473
  - preventive, (41) 531, (68) 714, (74) 1110—ab
  - preventive, in home and school, (79) 948
  - public, *hospitals*, and medical studies, (21) 1615—ab
  - rational and those who oppose its teachings, (121) 1644
  - sanctity of, (1) 317—ab
  - scientific, misfortunes of, (84) 1625
  - social, special training for, (109) 1913
  - sociologic, (63) 2091—ab
  - tropical, Huxley lectures on, (33) 1646—ab
  - tropical, teaching of, (102) 1733
  - unreasonable traditions of, (18) 707—ab
  - *use of Greek in*, (38) 797, (55) 1286
  - what documentary evidence should *be accepted as evidence of quali*fication *to practice*, (67) *2188*—ab
- Medicines and foods, proprietary, state regulation of, (13) 1111
- Medicolegal relations, of intestinal tears following unoperated appendiceal abscesses, (74) 624—ab
- Mediotarsal enucleation, osteoplastic, (120) 717
- Medulla and spinal cord, tuberculosis of, course of cerebello-olivary fibers in, (43) 445
  - syringomyelia with symptoms, referred to, (102) 1041
- Megacolon, (53) 355—ab
  - in children, (85) 265—ab
- Melancholia in children, (84) 1733—ab
  - *true and presenile, at menopause*, (22) 1377
  - with delusions of negation, (138) 170
- *Melanodermia, physiologic, of mucosæ*, (59) 1286
- Melanoma, chemical study of, (117) 359
  - of external genitals, (40) 630
  - of Vater's diverticulum and lower portion of common bile duct causing complete obstruction, (152) 870
- Melanosarcoma of bile duct, complete obstruction caused by, (129) 78
  - of orbit, (10) 530—ab
  - primary epibulbar, (106) 1733
- Melbourne milk supply, (41) 81
- Melena, and paratyphoid in newborn, (62) 264—ab
- Melitensis septicemia, (1) 171, (4) 353
- Membrane, Descemet's, traumatic rupture and defects of, (35) 349
  - persistent pupillary, rare case of, (130) 1282
  - tympanic, herpes of, due to zosteroid affection of petrosal gang*lion*, (35) 1108
- Membranes, retained fetal, forceps removal of, (63) 1647
- Men, *technic for removal of high* rectal cancer in, (91) 1471
- Mendel's law and atavism, new light on phenomena of, (90) 876
- Ménière's disease, myth and mystery of, (9) 1729
- Meningeal tumor compressing cerebellum, (137) 170
- Meningism and meningoencephalitis in croupous pneumonia, (105) 1473—ab
- Meningitis-cerebrospinal (100) 1116, (150) 1188, (42) 1468, (29) 1730, (10) 1906
  - acute, other than tuberculous, etiology, pathology symptomatology and diagnosis, (78) 1643
  - bacteriology of, (3) 171—ab, (28) 1038
  - epidemic, (101) 83, (81) 264, (96) 1819—ab
  - epidemic, complications and serum *treatment of*, (70) 1193—ab
  - epidemic, cultivation of meningococcus from eye conditions complicating, (101) 1466
  - *epidemic*, hypopion iritis associated with, (129) 1188
  - epidemic, in Motherwell in 1907, (4) 1038
  - obstructive hydrocephalus following, with intraventricular injection of *antimeningitis* serum (159) 870
  - serotherapy of, abnormal reactions to horse serum in (26) 2191—ab
- Meningitis-cerebrospinal, serotherapy of, *15, *21, (76) 175, (18) 255, *269, (159) 870, (29) 1184—ab, (70) 1193—ab, *1315, *1318, (8) (1371—ab, (80) 1375, (17) 1639, (79) 1643, (27) 1645—ab, (16) 1729, (5) 1815, (98, 100) 1819—ab, (11) 19007—ab, (90) 1913—ab, (39) 2002, (37) 2187, (117) 2196
  - serotherapy of, and prognosis under various forms of therapy (8) 1371—ab
  - suppurative, in infants simulating tetany, (31) 173
  - with unusual symptoms, *1231
- Meningitis and typhoid, research on, (98) 716
  - basic occlusive, (87) 1825—ab
  - blood in, (101) 177—ab
  - circumscribed serous and exploratory laminectomy, (77) 2009
  - *circumscribed serous spinal, idio*pathic form of, (69) 1558—ab
  - constriction hyperemia in, (143) 86-ab
  - diagnosis and treatment, (101) 534
  - *epidemic*, (80) 1643
  - epidemic, complement-binding test applied to, (93) 2010
  - *meningococcus, multiple* encephalitis with, (84) 1115
  - meningococcus, serotherapy of, (99) 1819—ab
  - pneumococcus, as direct result of severe trauma of skull five years before, (101) 1826
  - purulent, encephalitis and phlebitis of sigmoid sinus, jugular bulb and internal jugular vein, mastoiditis complicated by, (83) 1552
  - serotherapy of, (83) 1739, (101) 1819—ab
  - serum, (76) 175
  - *serum*, intraventricular injections of, obstructive hydrocephalus following cerebrospinal meningitis with, (159) 870
  - serum, tests for, (76) 798
  - spinal serous, (51) 1192—ab
  - suppurative, in puerperium, (56) 446—ab
  - tuberculous, (150) 1037, (77) 1643
  - tuberculous, cytodiagnosis in differentiation of, from epidemic variety, (97) 1819—ab
- Meningocele, psammoma-like growths in wall of, (102) 1913
- Meningococci, cultivation of, (73) 631—ab
- Meningococcus cultivated from eye conditions complicating epidemic cerebrospinal meningitis, (101) 1466
  - hydrocephalus caused by, (101) 1819—ab
  - in nose, identification of, (51) 2007
  - sepsis, (109) 1561—ab
  - septicemia with acute fibrinopurulent pericarditis and hypopion iritis *caused by*, (44) *1903—ab*
  - *two clinical types of, and their* bacteriologic differentiation, (32) 1467
- *Meningoencephalitis and meningism* in croupous pneumonia, (105) 1473—ab
- Meningoencephalomyelitis, *myoclonia* in, (48) 538—ab
- Menopause, *1507
  - and heart, (100) 1741—ab
  - melancholia, true and presenile, at, (22) 1377
  - premature, optic atrophy following, with probable tumor of pituitary body, (179) 171
- Menorrhagia, (47) 75—ab
- Menstrual cycle, histologic changes in endometrium incidental to, (39) 256
- Menstruation, age at first, and development of pelvis, (51) 2192—ab
  - and conception, (79) 1470
  - *and lactation*, (84) 82—ab
  - and unilateral ovarian tumors, (100) 1472
  - conception and duration of pregnancy, computation of, (105) 1011
  - disturbances of, (33) 872—ab
  - nasal, *1077
  - relation of pyelitis to, (81) 575—ab
  - vicarious, *1077
- Mental: See also Mind
  - affections *and serum* diagnosis of syphilis, (47) 1285—ab
  - and nervous diseases, hydrotherapy in, (148) 1906
  - and nervous diseases in general practice, (175) 171
  - and nervous disorders *from alcohol*, (51) 349—ab, (93) 1466
  - breakdown, how to prevent, and how to secure mental health, (29) 952
  - contagion, (87) 625—ab
  - cripples, (13) 2093
  - *defectives*, high-grade, (1) 864

Mental defectives in prison, (16) 354—ab
  defectives in prison, (16) 354—ab
  deficiency, borderline cases of, (3) 861
  development of school children, effects of faulty eye, ear, nose and throat conditions on, (88) 1466
  diseases, and alcohol, (25) 172
  diseases, differential diagnosis and treatment, (129) 1037
  diseases from sociologic viewpoint, (21) 2006—ab
  disorder, special provision for management of certain forms of, (13) 2186—ab
  disturbances, in women, (17) 1190
  etiology, physical basis of, (8) 865
  healing systems and methods, relation of physician to, (96) 710—ab
  health, how to secure, and how to prevent mental breakdown, (29) 932
  out-patient department, (20) 1377
  patients, examination and certification of, (7) 1820
  processes, insane, sane prototypes of (41) 2187—ab
  state in chorea, (72) 533—ab
  states and oxygen in cause and cure of disease, (18) 1278
Menthol poisoning, (104) 716
Mercury, (96) 1643
  and chalk, large doses of, in smallpox, (38) 2191—ab
  bichlorid in acute articular rheumatism, intravenous injection of, (150) 1044
  bichlorid, pericarditis in poisoning from, (65) 1039—ab
  in late syphilis, *1954
  in tabes, (128) 1290—ab
  in tuberculosis, (48) 75—ab, (15) 166—ab, (7) 944—ab, (43) 1108—ab, *1854, (38) 2187—ab
  inhalation of, in syphilis, (114) 1289—ab
  intravenous injection of, *2155
  local injections of, in syphilids, (28) 172—ab
  salicylate intramural injections of, in syphilis, (118) 793—ab
Mesenteric glands, primary tuberculosis of, (32) 866—ab
Mesentery, chyle cysts of, (39) 1731—ab
  isolated laceration of, after contusion of abdomen, (72) 1648
  jejunal, dermoid cyst of, (14) 1377
  of small intestine, dermoid cyst removed from, (105) 2194
  surgical treatment of tuberculous glands in, (34) 1468—ab
Mesophotography and application to delicate unfixed embryos, (24) 1111
Metabolism disturbances of, balneotherapy of heart and vascular affections from, (85) 176
  ferment reversions in, (25) 1816
  gout a disease of, its treatment, (76) 1280
  in children, why greater than in adults, (123) 85—ab
  in diabetes, (90) 625
  in typhoid, *974
  inborn errors of, (1) 442—ab, (1) 535—ab, (2) 626—ab, (2) 710—ab
  intermediary, influence of complete thyroidectomy and thyroid feeding on, (48) 1731—ab
  nitrogenous, influence of reduction of kidney substance on, (25) 1184—ab
  of water and salt, pathology of, (84) 1550—ab
  perverted, toxemia from standpoint of, (43) 167, (18) 1184—ab
  proteid, (45) 76
  protein, and diminished muscular activity, (36) 1278—ab
  purin, in gout, (75) 868—ab
  purin, physiology of, (24) 1038
  research, home-made apparatus for collecting infant's urine and stools for, (64) 1469
  respiratory, influence of castration on, (98) 2194
  respiratory, of consumptive during night sweats, (111) 1826
  respiratory, of obese man fasting and after eating, (132) 634
  salt and ash-free diet, *727
  salt, in experimental nephritis, (146) 1475
  uric acid, during subcutaneous oxygen treatment of neuritis and neuralgia, (149) 1044—ab
Metallic and alcoholic poisoning causing neuroses, (156) 951
  tractors, Perkin's, (122) 170
Metals, cause of lead poisoning in tinning of, (27) 2191—ab
Metatarsus, dislocation of, in Lisfranc's joint, (51) 1822
  indirect fractures of, (116) 1289—ab
Meteorology, configuration, and general health of midland counties of England, (35) 444
Methylene blue, sodium carminate and indigo-carmin, kidney secretion of, (50) 1108—ab
Metol dermatitis, (16) 1106—ab
Metreurynter for placenta prævia, (101) 632—ab
Metric system, difficulties and dangers of, (98) 1037—ab
Metritis, chronic, hemorrhage in, (77) 82—ab
  chronic infectious, (161) 950
  chronic, wedge resection of body of uterus for, (50) 630
Metrorrhagia, (47) 75—ab
Mica plates for research on red corpuscles, (122) 1474—ab
Mice: See also Mouse
  carcinoma in, (18) 2006
  carcinoma in, action of two sera on, (6) 1282
Michel's clamps, repair of superficial perineal lacerations with, (96) 1110
Michigan, obstetric service for laboring classes and relation of midwife to, (165) 171
Microbiology and pathologic anatomy of grave jaundice in secondary syphilis, (43) 1646
Micro-organism causing epidemic among cats, (61) 1469
Micro-organisms, allied forms of, and tubercle bacilli, (54) 1552
Microphthalmia, (122) 1905
Microscope and test tube in diagnosis, (57) 850
Microsporon affection of scalp, (49) 953
  caninum or lanosum, frequency of, in man and in dogs, (28) 712
  epidemic, (55) 174, (105) 358
Microtome, compact ether-freezing, (126) 1553
Microtomy, improved technic for, (116) 800
Middle classes, home hospitals for, (12) 261
Midwife in Michigan and obstetric service for laboring classes, (165) 171
Midwifery statistics, (28) 2006
Migraine, (62) 1035
  an occupation neurosis, *200
  and epilepsy, thyroid extract in, (78) 625—ab
  epilepsy, *480
Military medical service of Knights of Malta in Austro-Hungarian army, (128) 950
  service and national physique, (8) 1111
Milk and infectious diseases, *1491
  bacterial content of, methods for determining, (53) 2003—ab
  borne outbreak of typhoid, unusually extensive, (2) 255—ab
  bottled, distribution of bacteria in, and its application to infant feeding, (146) 1282
  breast, analysis and modification of, (78) 533
  breast, artificially drawn, feeding infants with, (111) 449
  breast, determination in, of substances indicating intestinal putrefaction, (49) 174
  breast, essential ingredients of, (94) 83
  breast, importance of different proportions of fat in, with respect to thriving of infant, (56) 874
  breast, increase of proportion of fat in, during ingestion of fat, (55) 873—ab
  breast, problem of, *1212
  breast, quantity and quality of, during first two weeks of puerperium, *1209
  certified, (108) 1377
  certified, and bovine tuberculosis, (143) 1906
  certified, in Cincinnati, (86) 351
  clean, certified, economic and medical relations, (87) 351
  clean or unclean? (55) 1375—ab
  commercial, and dairy products at Leipsic, proportion of tubercle bacilli in, (131) 1117
  cooler, practical, *1328
  cow's containing tubercle bacilli, danger in using, (2) 2233—ab
  cow's enzyme reactions of and their importance for hygienic control of milk supply, (116) 541—ab
  diet, in obesity, (105) 716, (92) 876—ab
  diet, Karrell's, and underfeeding in failing heart compensation, (89) 876—ab
  effect of heating on determination of leucocytes in, (57) 1108
  epidemic at Christiania, (137) 1743
  fluid diet without, in typhoid, (18, 19, 20) 73—ab
Milk from cows with udder affections, (136) 1743—ab
  human and cow's, available alkali in ash of, and infant nutrition, (23) 1033—ab
  human, hemolytic complement in, (144) 86
  human, proteolytic enzyme of, (49) 1903
  infected, localized outbreak of scarlet fever presumably due to, (11) 1189
  infection, chronic, (148) 1734
  percentages, calculation of, (60) 257
  problem, (18) 80, (18) 172
  problem encouragements in, (97) 1187—ab
  proteins, (52) 1732—ab
  raw and pasteurized, chemical evidence of peptonization in, (50) 1731—ab
  refrigerator, inexpensive home-made, *317
  sanitary, (43) 440
  sanitary, conditions influencing production of, (69) 1375
  skimmed, as temporary food for infants, (71) 709—ab
  sour, and selected lactic acid bacilli in chronic ill health, (4) 870
  sour, practical value of, (53) 1642—ab
  sterilized and pasteurized, reliability of, as infant food, (142) 1906
  syphilitic women, antibodies in, 1409—ab
  supply, health department methods for supervision of, (73) 710
  supply of Melbourne, (44) 81
  supply, sanitary, necessity of, (70) 1375
  top, gospel of, *1216
  tuberculous infection through, (85) 793
  typhoid due to, (6) 2038—ab
  vegetable diet in pernicious anemia, (138) 1744—ab
Milker's felon, (117) 717—ab
Milroy's disease, (33) 262—ab
Mind: See also Mental
  abnormal, and trauma, (73) 76
  and nervous system and diseases of, and pelvic diseases, (97) 1904—ab
  bacillus of, and its decrees, (20) 439
  defect or disease of, medicolegal consideration in, (83) 259
Mines, coal, dosage of gases in, (49) 2007
  sanitation of, (5) 1466
Minnesota, management of smallpox in, (18, 20) 2001—ab, *2151
  tuberculosis in, statistics, (136) 793
Miotics versus iridectomy in chronic glaucoma, *1389
Miracles at tomb of R. Francois de Paris, (14) 255—ab
Miscarriage and abortion, etiology and symptomatology of, (83) 351
  and abortion, prophylaxis and medical treatment of, (84) 351
  and abortion, surgical treatment of, (85) 351
Mississippi Valley and tropical diseases, (67) 2091—ab
Mitral incompetency, murmur in, mechanism of propagation to apex of, (41) 355
  insufficiency, various localizations of murmur from, (126) 717
  stenosis, (62) 798
  stenosis and dwarf growth, (52) 873—ab
  stenosis, congenital, pregnancy and childbirth with, (30) 712—ab
Mobilization and massage, treatment of fractures by, (11) 1554—ab
Models, wax, (83) 77
Mold fungi, production of toxin by, (164) 87
Mole, hydatidiform, (64) 81—ab, (106) 1466
Molluscum-contagiosum, etiology of, (111) 266
  of genitals in husband and wife and of face and neck of their infant boy, (46) 1279
Mongolian spots and rickets in colored children of Jamaica, (42) 867—ab
Monkeys, digestive tract of, fate of bacillus bulgaricus in, (54) 1732—ab
  diffusely disseminated cutaneous syphilids in, after inoculation in testicles, (58) 1823
  treponema pertenuis of yaws and *production of disease in*, (123) 950—ab, (108) 1187—ab
Monomania, insanity or partial insanity, plea of, (37) 873
Monster with rudiments of heart and head, (108) 266
Monstrosity, double-headed, *1073
Montpelier, school of, (72) 1732
Morbidity and mortality, reduction of, of child-bearing women, if maternity hospitals were more in favor, (22) 623—ab
  returns, international classification applied to, (12) 2089—ab
Moro's technic, percutaneous tuberculin reaction by, (108) 717
Morphin derivatives, value of, in ocular therapeutics, (18) 531, (139) 1037—ab, (71) 1643—ab
  habit, gelseminin in, (48) 349
  habit, treatment of, in general practice, (126) 1820
  in pain, (74) 1280
  influence of, on resistance of red blood corpuscles, (100) 799
  poisoning, industrial, (88) 2010—ab
Morphinism, (100) 534
  and opium habit, (1) 951
  chronic, and its treatment, (4) 1282—ab
  narcotic method of treating, (17) 1032—ab
Morphology of spirochetes of syphilis and yaws, (21) 944
  of parasite and spirochætosis in southern Arabia, (35) 2191
Mortality and disease from alcohol, (4) 349
  and morbidity, reduction of, of child-bearing women, if maternity hospitals were more in favor, (22) 623—ab
  from tuberculosis in Berlin, causes of decline of, (40) 712—ab
  immediate, of abdominal hysterectomy for cancer of cervix, (11) 2190
  Infant,: See Infant Mortality
  rate in autopsies, 566—ab
  rate from tuberculosis, at what age periods and in what measure has reduction in, manifested itself in New York City during past forty years? (13) 2088
Mosquito and yellow fever, *2199
Motes and granula, (48) 1192
Mother and child, recovery of, with Cesarean Section in eclampsia, (61) 947
  recently delivered, sudden death that may come to, (115) 1733
Mothers and infants, institutions for caring for, (77) 1558
  of infants with inherited syphilis, serum diagnosis in, (84) 876—ab
Motor car and telephone, vs. axis traction forceps, (34) 1555—ab
  function, cerebral inhibition and, *183
Moulages, (83) 77
Mouse cancer, transplantable, resistance of, to freezing with liquid air, (55) 2003—ab
  cancers, spirochetes in, (93) 176
  tumors, influence of scarlet oil on, (120) 2197—ab
Mouth and tongue, cancer, (30) 1730—ab
  breathing causes and evils of, (80) 1819—ab
  breathing, snoring, etc., (119) 793—ab
  cancer of, in India, (14) 79—ab
  care of, during infancy and childhood, (12) 2186—ab
  inefficient care of, alveolitis from, *2113
  nose and pharynx surgery, general anesthesia in, (9) 438—ab
  pigmentations of mucous membrane of, *1685
  rare ulcerative and necrotic processes in, (87) 2098—ab
  tuberculosis of mucous membrane of, (51) 1552
  use of serum by, (30) 1038
Mucous membrane, gastric, direct inspection of, (18) 795—ab
  membrane inflammatory proliferation of, in Fallopian tube, (119) 1742
  membrane of mouth, tuberculosis of, (51) 1551
  membrane of uterus and vagina, capacity of, for absorption, (57) 2193—ab
Mucus, microchemical test for, in stools, (100) 2099—ab
  membrane, uterovaginal, study of at different ages, (55) 2007
  membranes, exposed, and epithelial tumors of skin, (86) 710
  membranes, physiologic melanodermia of, (59) 1286
Mucus, intestinal, paroxysmal excessive secretion of, (42) 953—ab
Muffet, T., 1553-1604, (75) 1732—ab
Mumps: See Parotitis
Murmur, exocardial, often misinterpreted, (7) 1644—ab
  in mitral incomptency, mechanism of propagation to apex of, (41) 355
  respiratory, and physics of physical signs, *399
  various localizations of, for mitral insufficiency, (126) 717

Murmur, cardiac, unusual, (14) 530
  in pulmonary area, (98) 541
Muscle, behavior of, after compression,, (63) 350—ab
  interposition of flap of, resection of hip joint with, (109) 1826
  movements, single, coordination of, in central nervous system, *89
Muscles, action of curara and physostigmin on, (44) 1817
  and glands, resuscitation of, after temporary anemia, (64) 350—ab
  congenital defects of, infantile disintegration of nuclei and progressive infantile dystrophy of muscles, relations between, (83) 1114—ab
  dystrophy of, are there latent or rudimentary types of? (126) 178
  hydatid disease of, (87) 1194
  ischemic contracture of, and plaster cast, (100) 2195—ab
  of hip, physiologic action of, (45) 1555
  paralysis of, and retching, relations between, and apomorphin poisoning, (83) 1381—ab
  pathologic physiology of, (69) 446
  primary sarcoma in, (121) 1914
  smooth, contraction of, application of McDougall's theory of, (38) 1278—ab
  transplantation of, (87) 358
Muscular dystrophy, existence of rudimentary or abortive forms of and their treatment, (90) 358
  rigidity, congenital, and dislocation of hip joint, (80) 356—ab
  symptoms due to intense heat, *1969
Myalgia, (10) 172
  lumbalis, (28) 790
Myasthenia-gravis, pseudoparalytic, (44) 1191—ab
  pseudoparalytic, with negative pathologic findings, (89) 2004—ab
Mycosis, benign tonsillar, (126) 634
  fungoides, (18) 1821—ab
Mydriasis, substances in urine that induce, (87) 1559
Myelitis, severe, with gangrenous decubitus, (83) 447
Myeloma, intramuscular, and hematoma complicating myeloid leukema, (53) 174
Myelomalacia, traumatic cervical, *664
Myiasis, (33) 1907
  intestinal, (87) 1819
Myocarditis, chronic, (88) 77—ab
Myocardium, symptoms attributed to, often of peripheral origin, (28) 1550
Myoclonia in meningo-encephalomyelitis, (48) 538—ab
Myogenic theory, and cardiac arrhythmia, (13) 1467—ab
Myoma and uterine musculature, chemical composition of (81), 2098
  capsule, (65) 538
  of rectum, (79) 82
  of uterus, dangers and treatment of, (1) 78, (2) 171, (19) 261—ab
Myomata, necrosis of, during pregnancy, (78) 1470
Myopia in pure-blooded negro, unusual degree of, (104) 1466
  incipient, atropin in, (88) 715
  prophylaxis of, (102) 876
  refractive, (122) 1734
Myositis and neuritis, ischemic, (38) 1467
  ossificans progressive, (150) 1734
Myotonia, congenital study of, by sufferer from, (57) 2091—ab
Myxedema, (42) 1185
  blood changes in, (124) 359
  hypothyroidea, incomplete, (110) 1644
Myxoma chorii, (106) 1466
  of pelvis, true and false, (110) 1282—ab
Myxomas, especially fibroelastomyxoma of heart, (103) 1913—ab
Myxosarcoma of round ligament, (44) 75

N

Nagana, experimental, arsenic in, (74) 447—ab
  experimental, atoxyl and thioglycolic acid in, (66) 1470
  experimental, successful treatment of, (90) 1115
Nail affections, x-ray for, (112) 84
Nasopharyngeal catarrh in children, treatment of, (127) 1043
  origin of chorea, (45) 2192—ab
Nasopharynx, adenoids in, (158) 1734
  and nose, influence of widening of palatal arch on, (117) 1466
  and sphenoid region, carcinoma of, radium in, (89) 441
  treatment of hemorrhage after operations on, (124) 534
National department of public health, *1856
  efficiency and physical deterioration, relation of alcohol to, (44) 349
  Formulary and U. S. Pharmacopeia, need of more intimate knowledge of, among physicians, *2018
  Formulary and U. S. P. preparations, (107) 352
  Formulary and U. S. P. preparations vs. proprietaries, (46) 1185
  Formulary, and U. S. pharmacopeia, relation of physician and pharmacist to, (106) 169
Navy and Army, medical departments of, and relation of, for war, to American National Red Cross, (106) 1187
Neck and face, spasmodic movements of, elements of diagnosis between, (20) 1730
  branchiogenic multilocular cysts of, (56) 1380
  deformities of, (128) 1734
  extirpation of tuberculous glands of, explanation of exophthalmos, tachycardia and tremor following, (27) 2186
  injury of nerves during extirpation of glands in, (59) 713—ab
  fracture and dislocation of, at sixth cervical vertebra in man of 60, recovery, (10) 1815
  multilocular cyst of, in infant, (42) 445
  neoplasms of, operation for (23) 531
  tuberculous glands in, embolic tuberculous pneumonia following massage of, (90) 1559
Necresis, chloroform, of liver, (35) 1463—ab
  of fat tissue, subcutaneous, (140) 1743
  of limbs, frequency of, after ligation of large trunk vessels, (50) 797—ab
  of myomata during pregnancy, (78) 1470
  phosphorus, treatment of, (54) 355—ab
  progressive, of costal cartilages, (44) 2095—ab
  subcutaneous, of fat tissue, (130) 1474—ab
Needles, extraction of, (120) 1042—ab
Negro consumptives, (84) 533—ab, (121) 793
  outlook of, for health, (85) 533—ab
  pure-blooded, unusual degree of myopia in, (104) 146
Neoplasms: See also Tumors
  abdominal, differential leucocytic estimation in diagnosis of, (76) 1904
  active, non-relationship of, to prognosis in malignant disease, *910
  malignant, epidermal fibrils in classification of, (101) 869
  melanotic, (142) 1734
  new, of animals, appearance of heteroplastic tumors in transplantations of, (5) 865
  new intrathoracic, (1) 870—ab
  of neck, operation for, (23) 531
Nephrectomy and nephrotomy, indications for, (18) 1554
  case requiring immediate, *1780
  for pyonephrosis and renal calculi, (18) 1639
  subsequent, on account of hemorrhage, after nephrolithotomy for renal calculi, (8) 951
  vaginoureterostomy after, for pyonephrosis due to sigmate constriction of ureter, (16) 1278
Nephritis, acute, (103) 352
  acute, in childhood, (41) 867—ab
  acute, in scarlet fever treated by spartein sulphate, (28) 707
  acute parenchymatous, (72) 948
  acute syphilitic, (17) 166
  as complication and sequel of measles, (116) 1282
  chronic, blood pressure and influence of food in, (104) 84
  chronic, blood pressure and its measurement in, (68) 1911—ab
  chronic and suprarenal lesions, (23) 2089—ab
  chronic, etiology of, (27) 348—ab
  chronic, experimental, (96) 869
  chronic interstitial, (170) 1189
  chronic interstitial, arterial changes in, (65) 1732
Nephritis, chronic interstitial, and recurring paralysis, (169) 171
  chronic interstitial, etiology and pathology of, including urinary findings, (66) 1732
  chronic, subtemporal decompression in, for neuroretinal lesion, with uremia, (31) 1902—ab
  chronic, serotherapy of, (59) 1823—ab
  chronic, treatment, (69) 1642—ab
  congenital, (6) 2185—ab
  decapsulation of kidneys for, (176) 950, (96) 1740—ab, (56) 1909—ab
  experimental, glomerular lesion of, (3) 255
  experimental, nephrotoxic substances in serum of animals with, (45) 1903—ab
  experimental, salt metabolism in, (146) 1475
  hemorrhagic, following scarlet fever, *1410
  in infancy, (37) 1467
  interstitial, (20) 348
  of pregnancy, suparenal capsules in, (51) 81—ab
  operative treatment of, (50) 1374—ab
  sclerous atrophic, of tuberculous origin, (57) 1286—ab
  secondary, in transplacental typhoid infection, (49) 1817—ab
  serotherapy of, (57) 1738—ab, (59) 1823—ab
Nephrolithiasis, (112) 260—ab
  symptomatology of, (56) 1286—ab
Nephrolithotomy for renal calculi: subsequent nephrectomy on account of hemorrhage, (8) 951
Nephropexy, new technic for, (59) 441—ab, *54
Nephrotomy, experimental studies on human kidney of consequences of, (79) 1287
Nephrotoxic substances, presence of, in serum of animals with experimental nephritis, (45) 1903—ab
Nephroureterectomy, complete, for renal tuberculosis in women, *459
Nerve, abducent, paralysis of, with otitis media, (123) 1282
  anastomosis in infantile paralysis, (16) 348—ab
  area, mental, and grayness of hair, (14) 443
  atrophy, optic, infrequent type of, *290
  auditory, division of, for painful tinnitus, (26) 1645—ab
  cells, Edinger's theory of using-up of, (123) 1914
  circumflex, inflammation of, (17) 255
  condition, velocity of, temperature coefficient of, (73) 350—ab
  disease, organic, and heart affections, (39) 1468
  endings, action of curara and physostigmin on, (44) 1817
  facial, surgery of, (134) 950
  facio-hypoglossal, anastomcsis of, *455
  great splanchnic, experiments on nature of glycogenolytic fibers in, (54) 1108
  great splanchnic, influence of, stimulation of, on disappearance of glycogen from liver, (55) 1108
  injuries of upper extremity, diagnosis and electrical treatment of, (22) 1283
  median, immediate results in implantation of, (98) 2092
  nasal, resection of, intractable hay fever and paroxysmal coryza cured by, (4) 171—ab
  nucleus icterus of infants, (95) 799—ab
  optic, changes in multiple sclerosis, *120
  optic, differential diagnosis of affections of, *483
  optic, importance of disturbances in, in incipient multiple sclerosis, (70) 1470—ab
  optic, indirect injuries of, (62) 948—ab
  sedative, (58) 168
  sixth cranial, paralysis of, in aural disease, (20) 1467
  splanchnic, structure of lobule of liver under influence of, (130) 1043
  strain as etiologic factor in nervous affections, (99) 632—ab
  stretching of, negative results of, for perforating ulcer of foot, (140) 267
  trunks, large, adiposis dolorosa with involvement of, (17) 2088
  ulnar, occupation neuritis of deep palmar branch of, (88) 2004—ab
  ulnar, recurrent dislocation of, (38) 1372—ab
Nerves and arteries, neoplastic infection of, cancer and cirrhosis of liver with, (128) 1914
Nerves and tobacco, (72) 76
  cervical, section of posterior primary divisions of, in spasmodic torticollis, (14) 1554
  ciliary, angioma of orbit, with invasion of globe along, (117) 1905
  cranial, injuries of, from fractures of skull, *271
  injury of, during extirpation of glands in neck, (59) 713—ab
  peripheral, diagnosis of injuries of, from those of spinal cord, (154) 1734
  recurrent laryngeal, paralysis of, of peripheral origin, (15) 438—ab, (83) 2092
  seventh cervical, injury to posterior roots of, followed by posterior column degenerations, (90) 1376
  suture of, (54) 264—ab, (34) 866
  sympathetic and autonomous, antagonism between as affecting drug influence on internal secretion, (175) 87
  third, complete paralysis of, tuberculosis of brain with, (37) 1821
  to excite glands for renal secretion, probable existence of, (67) 1039
  treatment of paralysis by plastic operations on, (107) 633—ab
Nervous affections among poor of Rome, (139) 718
  affections, nerve strain as etiologic factor in, (99) 632—ab
  affections, traumatic, treatment of, (99) 1382—ab
  affections, toxic, following house epidemic of diphtheria, (80) 1470
  and mental diseases, hydrotherapy in, (148) 1906
  and mental diseases in general practice, (175) 171
  and mental disorders from alcohol, (93) 1466
  disease, prostate as factor in, (21) 2089—ab
  diseases, organic and functional, differentiation of, (125) 260
  diseases, static electricity in, (70) 1465
  disorders in Colorado, (119) 1644
  disorders, psychic treatment of, (105) 442
  disturbances of arms in arteriosclerosis, (121) 2197—ab
  patients, bath treatment at Mt. Clemens for, (108) 442
  symptoms, functional, estimation of, (153) 1734
  symptoms produced by malaria, (19) 1906
  systems and diseases of mind, pelvic diseases and, (97) 1904—ab
  system, arteriosclerosis of, (77) 169—ab
  system, autonomous in acute surgical conditions, (6) 442, (5) 535—ab
  system, central and organs of sense, metastasis of carcinoma of uterus in, (133) 2198—ab
  system, central, coordination of single muscular movements in, *89
  system, central, effect of complete anemia of, in dogs resuscitated after relative death, (26) 2089
  system, central, return of function in, after temporary cerebral anemia, (155) 870
  system, diseases of, (100) 1281
  system, heredity in diseases of, (2) 2189—ab, (11) 2190—ab
  system, early diagnosis of organic disease of, (9) 2190—ab
  system, influence of, on infective processes, (12) 2093—ab
  system modifications in after stovain anesthesia, (70) 955—ab
  system, recent literature on diseases of, (34) 952
  system, syphilis of, (30) 2186
  tissues, nature of heat paralysis in, (37) 1278
Nervousness in children and their diet, (104) 1560—ab
  training a prophylatic for, (82) 351
Neuralgia and neuritis, uric acid metabolism during subcutaneous oxygen treatment of, (149) 1041—ab
  facial, treatment of, verdict of French surgical congress on, (47) 1909—ab
  rectal, (60) 947
  syphilitic, (58) 81—ab
  trigeminal, from changes in teeth, (121) 266—ab
  trigeminal, injection of alcohol for, (3) 1276—ab
  trigeminal, severe excision of Gasserian ganglion for, (52) 1465
Neurasthenia, (70) 624—ab, (57) 1031—ab, (32) 1645

Neurasthenia and drug and liquor addictions, (174) 171
  and hysteria, psychology of, (24) 1377—ab
  autosuggestion in, (51) 538—ab
  blood pressure in, (4) 626—ab
  cerebellar, (118) 2100
  gastric nervous dyspepsia or dyspeptic symptoms due to eye-strain, (24) 623
  indications and principles for medicinal and dietetic treatment of, (112) 634—ab
  nature and treatment of, (10) 2195—ab
  syphilitic diagnosis and treatment of, (19) 354
  treatment of, (78) 955—ab
  ultraviolet ray and high frequency currents in, (11) 2185
  ventriculi and gastroptosis, (17) 1106
Neuritis (109) 626
  and myositis ischemic (98) 1467
  and neuralgia uric acid metabolism during subcutaneous oxygen treatment of, (149) 1014—ab
  ascending (71) 1558—ab
  central (100) 1643
  multiple, (89) 2189—ab
  occupation, of deep palmar branch of ulnar nerve, (88) 2004—ab
  optic, due to chronic empyema of frontal and anterior ethmoidal sinuses, (65) 168
  plumbic ocular, in Queensland children (11) 2093
  secondary ulnar, with ischemic contracture, result of brachial thrombosis *2059
  postdiphtheritic multiple, with vesical involvement, (13) 255
Neurofibromatosis, multiple, and tumors in cerebello pontine angle, (109) 2194
Neuroglioma gangliocellulare of brain, (10) 438
Neurologists, attitude of, to electrotherapy, *13
Neurology and psychiatry, French clinics in, (51) 1817
  corporal punishment in schools from standpoint of, (89) 1115
  literature on, recent, (34) 1736
  recent advices in, (94) 1186
  roentgenology in, *723
  teaching of, in America, *1
Neuron, peripheral centripetal in tabes, improvement following Frenkel's exercise therapy of, (81) 955—ab
Neurons primary motor, disease of, causing clinical picture of acute anterior poliomyelitis result of poisoning by potassium cyanid, (71) 792
Neuroses caused by alcoholic and metallic poisoning, (186) 951
  factors in causation of, (37) 2007—ab
  gastrointestinal, (129) 1111
  hyperemia in, (112) 169, (28) 1462—ab
  occupational (90) 2189—ab
  of bladder, (65) 76—ab
  of nose, (13) 2233—ab
  of stomach (75) 74—ab
  ovarian (26) 1278
  ovarian, ultimate results from surgical vs medical treatment in, (26) 1278, (154) 1906
  reflex from ocular and nasal abnormities (12) 1815—ab, (72) 2189
  reflex, in children, (50) 1270
  vasomotor, recurrent temporary amblyopia of angiospastic origin associated with retinal angiospasm, (127) 442
  vasomotor trophic, progress and treatment of, (78) 2009—ab
Neurosis, expectation monosymptomatic, (105) 633—ab
  occupation, migraine as, *200
  of diaphragm, (115) 1741—ab
  traumatic, (64) 1185, (84) 1904
Neurotoxins specific, (66) 1738
Nevi and other lesions of skin, carbon dioxid snow in, (74) 356—ab, (104) 1057—ab
New Mexico Medical Society, (74) 1552
New York City, at what age periods and in what measure has reduction in mortality rate from tuberculosis manifested itself in, during last 40 years, (13) 2058
  harbor, sewage menace in, (57) 1552
  parasites found in, (29) 1193
Newspapers and advertising quack, (59) 1818
Night sweats respiratory metabolism of consumptive during, (111) 1826
Nipple, carcinoma of, (119) 1914, (72) 2193
  Paget's eczema of, with carcinoma, (40) 1555
Nipples hygiene of, (74) 1193
Nitrites nitrous acid and aqua regia in determination of mineral constituents of urine, (32) 1278—ab
Nitrogen and ammonia estimations total, toxemic pernicious vomiting of pregnancy, with, (32) 1107
Nitroglycerin tablets, physiologic assay of, *2150
Nitrous oxid and oxygen as an anesthetic agent, (67) 624
  and oxygen in dental and major surgery, *907
  anesthesia, *1576
  anesthesia blood changes induced by *1586
  anesthesia, prolonged, in dental operations method of inducing, (18) 2190
Noise apparatus for detection of unilateral deafness, (33) 537
Non electrolytes and salts, influence of, on heart, (60) 350—ab
North America, impressions of surgeon visiting, (110) 877
North, F., one of Connecticut's most eminent medical practitioners. (73) 1732
Norway, infant mortality in, influence of various causes of death on, (122) 84
Nose abscess of septum of, probably due to anthrax infection, *1697
  accessory air cells in, (28) 1467
  accessory sinuses of, inflammation of, as sequel of influenza, (99) 352
  accessory sinuses of, diseased, and diseases of eye, (25, 26) 1283
  accessory sinuses of, suppuration of, (55) 350
  accessory sinuses of, suppuration of, potassium iodid in, (74) 1558
  accessory sinuses of, surgical treatment of orbital complications in disease of, *299
  affections, artificially induced hyperemia in, (141) 718—ab
  analgesia of, as prognostic symptom in dry catarrhal deafness *750
  and accessory cavities, and *throat* and eye, (77) 1471—ab
  and climate, (30) 444
  and ear, vaccine therapy in sup*purations of, (85) 441*
  and eye abnormities, reflex neuroses *arising from*, (12) 1815—ab, (72) 2189
  and face, non specific ulceration of bones of, (62) 1465—ab
  and *nasopharynx*, influence of widening of palatal arch on, (117) 1466
  and throat examination, (15) 2006
  and *throat work in Vienna*, (116) 1733
  and throat work, recent advancements in, through bacteriotherapy, (68) 1732
  breathing, obstructed, induration of apex from, and its differentiation, (93) 876
  chronic inflammatory edema of submucous tissues of, (59) 1039
  collodion dressings in *1152
  deformities, correction of, (133) 1906
  deformities, correction of, by paraffin, (134) 1906
  depressed deformities and fractures of, combined bridge and intranasal splints for, *1421, (98) 1552
  depressed fracture of, new operation for, (21) 1467
  disease, unusual, (133) 870
  dysmenorrhea due to condition of, (60) 264—ab
  effect of abnormal conditions in, on hearing, (114) 1466
  external, surgery of deformities, (139) 1906
  eye, ear and throat conditions, faulty, effect on mental development of school children of, (85) 1466
  eye, ear and throat, expert testimony and medical jurisprudence as relating to, (111) 1377
  external, galvanic closure of dilated veinlets on, (136) 78
  foreign bodies in, cause of maxillary empyema, (91) 1552
  headache originating in, (86) 1281
  headaches due to sinus infections of, (67) 1035
  hemorrhage from, common source of in persons previously healthy, (74) 2004—ab
  identification of meningococcus in, (51) 2 07
Nose, in syphilis, insufflation of calomel in, (79) 264
  malignant disease of, (97) 1552
  menstruation from, *1077
  mouth and pharynx, general anesthesia in surgery of, (9) 498—ab
  neuroses of, (13) 2233—ab
  obstruction of, (36) 949, (8) 627
  opening into maxillary sinus through (59) 630
  opening of frontal sinus and establishment of drainage through, (67) 1552
  operation for removal of style in duct of, (141) 1057
  orbital abscess secondary to disease of, (114) 1037
  permanence of improvement in shape of, by paraffin injection, (20) 1644
  pressure and reflex pain, operation for, (99) 1904
  reflexes of, (59) 264
  respiration through, and disease, (78) 2189—ab
  saddle, repair of, (125) 352—ab, (97) 442
  sarcoma in, (65) 1280
  septal deflection, correction of, (115) 1188
  septal deformities of, operative treatment of, (102) 1826
  septal deviations, (57) 2188
  septal forceps, (96) 442
  septal perforations closure of, (163) 1189, (117) 1282
  septum of, closure of dilated veinlets on, (136) 78
  septum of, crest shaped deflection of, *222
  septum of indications for operations on (120) 266
  septum of, submucous operation on, with plea for more rapid technic (46) 257
  septum of, typical crest shaped deflection, *222
  submucous resection, for correction of septal irregularities, (117) 442
  submucous resection of lateral wall of, in chronic empyema of antrum, ethmoid and sphenoid, *1136
  surgery of (156) 1188
  throat and ear, climate of north and northwest in etiologic and therapeutic relation to diseases of, (102) 1552
  throat and ear complications of infectious diseases, (65) 2188
  treatment of hemorrhage after operations on, (124) 534
  treatment of, in spasmodic asthma, (94) 1819
  treatment of strictures of duct of, with lead styles, *1207
  tuberculous disease of, inoculation treatment, (35) 80
  turbinal removal, most rapid effective and least bloody method of, (28) 1730—ab
  work lactic acid bacilli cultures in, (18) 348
Nostrum and proprietary medicine *problem from standpoint of country* doctor (72) 709
Nostrums responsibility of medical profession for use of, *2022
Notification of transmissible disease, (65) 446
Nuclei, infantile disintegration of progressive infantile dystrophy of muscles, and congenital muscular defects, (83) 1115—ab
Nurses in Pennsylvania legislation concerning registration of, (115) 1282
  introductory to course of lectures for, (22) 1462
  traits they should possess, (2) 1278
Nursing, breast, from quantitative point of view, (57) 446
  breast, influence of on late development of child, (151) 86
  women, advice **to,** (138) 85
Nutrition and digestion, in early in*fancy*, (45) 1295—ab
  and fresh air in laryngeal and pulmonary tuberculosis, adjuvants to, (55) 1465—ab
Nutrition, disorders of, in infants, (110) 626
  of children, practical application of food values in, (79) 1186—ab
Nyasaland, rare sclerostome of man in, (25) 354
Nystagmus, caloric, test in fistula of labyrinth, (105) 1383
  congenital, consanguinity a cause of, (126) 1252
  interpretation of, and teleology, (114) 1905
  voluntary unilateral, *1909

O

Oatmeal diet, in diabetes mellitus, (136) 267—ab, (74) 1036—ab, (120) 1290
Obesity, exclusive milk diet in, (105) 716, (92) 876—ab
  extreme, treatment of, (56) 797
Obstetric cases, (49) 440, (30) 1033
  diary of William Hunter, (44) 1379—ab, (35) 1907, (46) 2007
  drawers, (31) 1033
  forceps, (79) 1110
  reminiscences, (71) 1185
  service for laboring classes and relation of midwife to it in Michigan, (165) 171
  surgery, (141) 1037
  work from standpoint of general practitioner, (40) 1108
Obstetrics, (99) 1281
  and gynecology, modern, tasks and results of, (113) 634
  and gynecology, rôle of, gonococcus in, (100) 1904
  and gynecology, under water examination and treatment in, (86) 357—ab
  and medicine, administration of anesthetics in, (26) 1901
  asepsis in, (77) 1904
  case of, with sequelæ, (76) 1110—ab
  course in, in University of Pennsylvania, (6) 348
  hyoscin morphin anesthesia in, (133) 793
  importance of blood pressure to, (116) 177
  importance of serum diagnosis of syphilis in, (70) 798—ab
  importance of suprarenal preparations in, (53) 630—ab
  in *country*, (58) 1732
  in northern mining community, *917
  in Philippines, (34) 1185—ab
  old and new, (103) 1041—ab
  scopolamin morphin in, (115) 177—ab, (76) 875
  significance of blood pressure in, and its relation to work of heart, (26) 945—ab
  training for the practice of, (61) 954
  urinary infections in, (45) 1641—ab
  veronal in, (117) 634
Obstipation, chronic, treatment of, (83) 265
  is it a symptom of disease? (131) 1906—ab
  spastic, non existence of, (78) 1649—ab
Occipital bone, significance of fusion of atlas to, and manifestation of occipital vertebræ, (25) 1111
Occiput, posterior cases, management of, (59) 1375—ab, (20) 2186, (87) 2189—ab
Occupation for tuberculous convalescents, (147) 950—ab
  neurosis, migraine as, *200
Ochronosis, (136) 1043
  and alcaptonuria, (98) 448—ab
Odontoma, compound follicular, (12) 79
Ohio valley municipalities, responsibilities of, for typhoid epidemics, *1496
Oil in stomach diseases, (76) 2009—ab
  olive, Italian, 1510—ab
  sterile, to prevent intraperitoneal adhesions, (178) 553—ab
Old friends in new clothes, (95) 169
Omentopexy to intestine deprived of its mesentery, (4) 1105—ab
Omentum, anatomy, histology and physiology of, in health and disease, (44) 531
  cysts of, with retroperitoneal and retrovesical hydatid cyst, (41) 1284
  gastrocolic, unique anomaly of, (129) 352
  great, (60) 630
  great, enormous endotheliomatous cyst of, (39) 1033
  great, intra abdominal rotation of, unaccompanied with hernia, (27) 1107—ab
  great, primary sarcoma of, (66) 81—ab
  great, torsion of, and habitual partial reduction en masse, (11) 2005
  inflammation of, (56) 264—ab
  torsion of, (155) 60—ab, (26) 1107—ab, (124) 1111
Oösperm, early relationship of, to endometrium, (2) 1276
Opacities, complete congenital, of both corneæ, (56) 867

Operating, metal frame for veil to wear while, (119) 1827
  room, simplified equipment and management for, (44) 256
  rooms, separate, and their management, (14) 261
  table, living pathology of, its observation a necessary means to accurate diagnosis in abdominal diseases, (140) 1906
Operation, Gleich's, in flatfoot, (54) 1556
  ideal, for arterial aneurism, (66) 1380—ab
  immediate, blood changes in abdominal cases requiring, (66) 1642
  immediate, following traumatisms, indications for, (65) 1642
  necessity of general practitioner knowing when it should be done and of surgeon being conservative as to operation, (131) 1820
Operations, apparatus for providing visitors with complete view and for securing photographs and moving pictures of, (88) 1551—ab, (108) 1819
  effect of, on diabetic patients, (69) 169—ab
  immediate, indications for, in abdominal conditions, (63, 64) 1642—ab
  in pancreatic disease, results of, (163) 171
  intravesical, for removal of benign tumors, (95) 2092
  major surgical, psychical end-results of, (99) 259—ab
  under intrapulmonary positive pressure, *803, *805, *808, (62) 2193—ab
  which can be done without requiring after-care in hospital? (100) 358—ab
Operative points, (115) 412
Ophthalmia, fetal, (78) 631
  gonorrheal, (105) 1819
  migratory, and injuries of the globe, (122) 534
  neonatorum, (127) 626, (75) 1818-ab
  neonatorum as sociologic problem, (117) 793—ab
  neonatorum, beef serum treatment of, (95) 876—ab
  neonatorum, improved Credé technic for prevention of, (85) 1912
  neonatorum, obligatory prophylaxis of, (109) 1473
  phlyctenular treatment of, (121) 84
  purulent, pathology and treatment, (98) 1877
  sympathetic, (23) 628, (115) 1905—ab
  sympathetic, sodium salicylate in, (124) 1652—ab
Ophthalmic practice, relative importance of fitting of glasses in, (101) 1187
  treatment case, pocket emergency, *1010
Ophthalmologists, participation of, in operative treatment of orbital accessory cavities, (81) 176
Ophthalmology, (124) 260
  for general practitioners, *1833
Ophthalmoscope in general practice, (80) 1186—ab
Ophthalmovascular choke, (84) 77
Ophthalmo-tonometer, new applantation, (37) 946
Opium and cocain, insanity caused by acute and chronic intoxications with, *97
  habit and morphinism, (1) 51
  habit in North China, (94) 259
  use and abuse of, (81) 948
Opposition to medical research, *635
Opsonic immunity, nature of, (29) 256
  index, accuracy and errors, (26) 80—ab
  index and vaccines, (187) 171, (74) 533, (71) 948
  index, and opsonins, (159) 171
  index, experimental error in determining, (28) 80—ab
  index in diagnosis of infectious diseases, (88) 1649
  index in erysipelas, (26) 256
  index in infants, (27) 80—ab
  index in tuberculosis, (31) 80, (74) 533, (3) 626—ab, (61) 874, (117) 1560
  index, statistics, (29) (80) —ab
  indices, technic for determining, (85) 441
  method, in diseases of eye, (38) 80
  method, surgical view of, (33) 80—ab
  methods in comparing human and bovine tuberculosis. (6) 118—ab
  substances, thermostabile and thermolabile, interaction of, in normal serum, (25) 256—ab
Opsonic technic, (146) 86, (79) 869, (43) 1903
  theory, (152) 1188
  theory and technic, (104) 442
  therapy, (11) 166—ab, (99) 2189
  therapy in tuberculosis of bones and *joints*, (32) 256
  therapy, practical application of, (56) 350—ab
Opsonin, non-specific disappearance of, in serum of animals with trypanosomiasis, (113) 1741
Opsonins and agglutinins, (72) 1465
  and antiphagins in pneumococcus infection, (62) 1039
  and opsonic index, (159) 171
  and vaccine therapy, (187) 171
  and vaccines in tuberculosis, (74) 533
  bacteriolysins and hemolysins, (97) 716
  importance of, for tuberculin treatment, (108) 2011
  in eye, import of, (38) 946
  of normal and of immune sera, nature of, and opsonic effects resulting from combined action of immune body and complement, (113) 869
  specificity of, in normal serum, (24) 256—ab
  structure of, in typhoid and meningitis, (98) 716
  theoretical considerations and experimental work in, (10) 166—ab
Optic atrophy following premature menopause, probable tumor pituitary body with, (179) 171
  atrophy, unilateral, with hemiplegia, (10) 79
  nerve affections in pregnancy, (104) 877—ab
  neuritis due to chronic empyema of frontal and anterior ethmoidal sinuses, (65) 168
  thalamus, solitary tubercle in, in hemichorea, (152) 1475
Orbit abscess secondary to nasal disease, (114) 1037
  accessory cavities of, ophthalmologists in operative treatment of, (81) 176
  and adjacent sinuses, mixed streptococcus and pneumococcus in*fection of*, (111) 1905—ab
  angioma of, with invasion of globe along ciliary nerves, (117) 1905
  calcified fibroma of, (101) 1643
  disease of sinuses near, and ocular infection, (112) 1905
  melanosarcoma of, (10) 530—ab
  right, sarcoma of, (119) 352
Orchidopexia by Hahn's method, (115) 1111
Orchitis, epididymitis, and vaginalitis from sporotrichum beurmanni, (43) 1737
Organ extracts, anaphylaxis produced by, (86) 799
Organism, actions of normal sera on, (98) 622
  in epidemic diarrhea, (7) 870—ab
Organization, medical: See Medical Organization
Organotherapy, clinical studies in, (121) 170
  present status of, (14) 2186—ab
Organs, blood vessels and limbs, transplantation of, *1662
  in chest and abdomen, orthodiagraphic examination of, (135) 1743
  volume and specific gravity of, (27) 1816—ab
Orient, medical progress in, (141) 1820
  medicine and surgery in, (1, 9) 72, (114) 260—ab
  winter cruise to, (128) 1037
Oropharynx, chronic inflammatory conditions of, (18, 19) 1467—ab
Orphan, continent without, (55) 1552—ab
Orthodiascope, new, and skiagrams, demonstration of, and x-ray as aid to diagnosis of tuberculosis of lungs, (64) 1904—ab
Orthodontia, (7) 353
Orthopedic service, present needs of, (110) 1552
  treatment in poliomyelitis, early, necessity for, (119) 1553—ab
Orthopedics, modern, tasks of, (86) 1381
  tuberculin in, (114) 1553—ab
Os calcis, fractures of, (13) 1729—ab
  calcis, gonorrheal exostoses of, (13) 1871
  calcis, non-tuberculous osteomyelitis of, (40) 2089
  external, secondary rigidity of, from acute puerperal inflammation of cervix, (27) 254—ab
  innominatum, excision of, (3) 789
  magnum, dislocation of, (125) 878
Oscar II, diabetes, last illness of, (121) 1652
Osseous system, metastatic sarcoma with special involvement of, (74) 1904
Osteitis, chondromata, bone cysts and similar affections, (80) 632
  deformans, (83) 441, (116) 1819
  of lower jaw simulating sarcoma, (53) 445
  Paget's deforming, (138) 1474—ab
Osteoarthritis, endemic deforming, in eastern Siberia, (53) 713—ab
Osteochondroma and chondroma, clinical and histologic study of, (71) 1039
Osteochondritis, congenital, syphilitic, simulating Erb's paralysis, (47) 2002
  of knee, dissecting, (51) 1909
Osteoma, (63) 1185
  and chondroma in faucial tonsils, (142) 950
  cutis, (144) 1820
Osteomalacia, (5) 626
  and ovarian antibodies, (108) 449-ab
  and rachitis, (94) 289—ab
  and rachitis, influence of suprarenals on bony skeleton in relation to, (7) 1377—ab
  suprarenal preparations in, (70) 82, (138) 718
Osteomyelitis, (58) 1552
  acute, in adolescents, emergency treatment of, (42) 263
  acute suppurating, treatment of, (180) 87—ab
  non-tuberculous of os calcis, (40) 2089
  of adolescence, (21) 1462
Osteopathy and scientific mechanotherapy, (56) 440
  vs. drug treatment, *2135
Osteosarcoma of knee joint, (0) 622-ab
Osteotome, spiral, driven by surgical engine in craniotomy, *1150
Otitis-media, acute, (108) 1282
  acute, early diagnosis and treatment, (63) 76
  acute, followed by acute suppuration of labyrinth, (90) 2092
  acute, in infancy and childhood, (70) 868—ab
  acute, indications and technic for incising drumhead in, (111) 793
  acute, method of arresting, (80) 264
  acute, prophylaxis and treatment of, (101) 626, (72) 868—ab
  acute, pyocyanase in, (62) 1647
  acute, spontaneous exenteration of mastoid from, (173) 950
  acute, suppurative, pathology and treatment of, (55) 1732
  acute, suppurative, pathology of, and indications for operation in acute mastoiditis, (73) 868
  acute suppurative, increase of specific gravity of pus in, as indication for opening mastoid process, and errors in Hammerschlag's method, (139) 1906
  acute, suppurative, thrombosis of lateral sinus and internal jugular vein following suppurative mastoiditis, caused by, (68) 624
  acute, surgical treatment of, (72) 1904
  boric acid treatment of, (128) 1117
  chronic, (159) 86—ab
  chronic recurrent suppurative and mastoid, and intracranial complications, (59) 1732, (88) 2092
  chronic suppurative, (151) 171, (6) 1519—ab, (9) 1815
  chronic suppurative and brain abscess, (34) 1551
  chronic suppurative, complicated by vertigo and ataxia; operation, recovery, (183) 171
  chronic, suppurative deficient cerebration in; cure by radical mastoid operation, (144) 950
  chronic suppurative, fatal cavernous sinus thrombosis following, (34) 537
  chronic suppurative, radical mas*toid operation for*, (5) 1461
  chronic, vaccines in, (68) 1465—ab
  complicating scarlatina and measles, *treatment of*, (48) 1270—ab
  in epidemic influenza, sequelæ and treatment, (147) 171
  isolated paralysis of external rectus with, (74) 539
  paralysis of abducent nerve associated with, (123) 1282
  Purulent: See Acute and Chronic Suppurative
  suppurative, brain abscess following, (88) 793
  suppurative, intracranial complications of, (77) 625, (144) 626—ab, (128) 870
Otitis, scarlatinal, occurrence and treatment of, (74) 1824—ab
Otoantritis, (67) 792
Otolaryngology, unclassified conclusions in, (77) 792
Otology, rhinology and laryngology, borderline of, *261
Otorrhea, chronic, complications of, (10) 627
Otosclerosis, (85) 2092
  etiology of, (84) 2092
  symptoms and diagnosis of, (86) 2092
Outdoor life for prevention and cure of disease, (188) 951
Out-patient department, functions of, (9) 261—ab
Ovarian cystoma, polypous, (106) 2099
  cysts, dermoid, of unusual size, *2218
  cysts, mixed, late recurrence and generalization after incomplete operations on, (49) 1113
  dermoid, multiple peritoneal pseudometastases of, (85) 1115
  diseases and ovarian neuroses, surgical, vs. medical treatment in, (26) 1278, (154) 1906
  perithelioma, threatening internal hemorrhage from, (130) 359
  syndrome, psychic disturbances in, (56) 2007—ab
  tumors complicating pregnancy and puerperium, (90) 169—ab
  tumors, embryonal, (111) 359
Ovaries and tubes, conservative surgery of, (135) 1111, (66) 1465—ab
  and tubes, operations on, (78) 529-ab
  microscopic metastasis in, with primary carcinoma of stomach, (96) 1649
  preservation of, in hysterectomy, (42) 75—ab
  reimplantation of, (90) 956—ab
  sarcoma of, (110) 949
  transplantation of, (35) 707—ab
Ovariotomies, results of, for anatomically malignant and dubious tumors, (91) 716—ab
Ovariotomy during delivery, (81) 1739, (23) 2094—ab
  during pregnancy, (38) 1646—ab, (35) 1817—ab
Ovary and pancreas, internal secretion of corpus luteum and reciprocal relations of, (123) 1742—ab
  and tube, hernia of, complicated by strangulation of intestine, (11) 914
  antibodies of, and osteomalacia, (108) 449—ab
  cancer of, with other tumors, (80) 82
  carcinoma of, histogenesis and diagnosis of, (58) 538
  chorioepithelioma, primary of, (78) 82
  cyst, dermoid of, (50) 1646
  large dermoid cyst of, with carcinomatous degeneration involving ⅓ of bladder; extirpation; recovery, (110) 1110
  cysts of, bilateral, (43) 1468
  endothelioma of, (76) 82—ab
  fatty degeneration of, a cytotoxin inducing, (117) 177
  solid fibroma of, obstructing delivery, (13) 2190
  solid teratomas of, (145) 1744—ab
  surgical vs. medical treatment of, (26) 1278, (154) 1906
  tumor of, typhoid suppuration of, (117) 1117
  transplantation of, results of, on body weights and egg weights in fowls, *1314
  tumors of, and ascitis, (8) 710
  tumors of, unilateral, and menstruation, (100) 1472
Overcivilization, effect of, on maternity, (35) 1902—ab
Overexertion, acute dilatation of heart from, (109) 449
Overpressure, apparatus for, (184) 87—ab
Overweight and underweight on vitality, influence of, (12) 1032—ab, (96) 1187—ab
Oviduct in hen, resection and end-to-end anastomosis of, without loss of function, (52) 1103—ab
Ovulation and pregnancy, forensic as*pects of*, (78) 1558
Ovum, primary implantation of, in pelvic peritoneum, (29) 2001
Oxaluria and phosphaturia, (51) 1039
Oxidation of phenyl derivatives of fatty acids in animal organism, (44) 1731
Oxygen and intubation, resuscitation by, in apparent death. (132) 2193—ab
  and mental states in cause and cure of disease, (18) 1278
  and muscular exercise as form of treatment, (7) 1554—ab
  and nitrous oxid as anesthetic agent, value of warming vapor of ether and chloroform, (67) 624

Oxygen and nitrous oxid in dental and major surgery, *907
  consumed in waters, determination of (56) 1108
  continuous current of in puerperal infections, (42) 1821—ab
  inhalations on athletes, influence of, (25) 1028
  in medicine and surgery, (127) 626—ab
  in tuberculous peritonitis (15) 825—ab
  pneumonia treated by continuous inhalation of (21) 712—ab
  treatment, subcutaneous of neuritis and neuralgia, uric acid metabolism during (111) 1644—ab
  value of consumption of, as test for waters, (111) 2011
Ozena and atrophic rhinitis, (149) [illegible]
  Lord's theory as etiologic factor in, (94) 626
  pyocyanase in, (105) 1116
  treatment of atrophic rhinitis including (147) 535
  with atrophic rhinitis, pathology of, (146) 353

P

Pachymeningitis external suppurative, and tumor of spinal cord, (80) 2091
Packard Mrs., (25) 915
Pads on finger joints (55) 795
Paget's disease of breast, (119) 1114
  diseases of bones (70) 1911
  See also Carcinoma
Pain abdominal diagnostic significance of (168) 171 (1) 1207—ab (145) 1806
  acute epigastric (144) 412
  as chief or sole expression of psychic state (125) 412
  clinical aspects of (9) 142—ab
  lancinating in head in tabes dorsalis (106) 1913—ab
  left sided extra significance of, in appendicitis, (111) 949—ab
  morphin in, (74) 1280
  referred, (110) 531—ab
  remote, following abdominal operations, (95) 1187—ab
  sensitiveness to, of viscera innervated by sympathetic (85) 2195 ab
Pains lightning, and gastric crises, arterial pressure in tabes dorsalis and its modification under influence of, (53) 1758—ab
Palatal arch, influence of widening of on nose and nasopharynx, (117) 1466
Palate cleft, (151) 1097
  cleft operation for, (134) 352 (106) 541, (51) 713—ab
  hard and maxilla in primates, (76) 1111
Palatoglossus muscle, isolation of and congenital detachment of faucial pillars, (132) 870
Palestine, hirudinea as human parasites in (50) 1079
Palpation of appendix, (11) 177
Palsies ocular, reflex eye movements a differential sign in (113) 1198
Palsy See also Paralysis
  Bell's, in infant, (44) 140
  facial and auditory symptoms with herpes zoster oticus facialis, or occipitocollaris in herpetic inflammations of geniculate ganglion (36) 866
  of extraocular muscles in exophthalmic goiter, (99) 442
Panama American triumph in, (8) 78—ab
  malaria at, (7) 2000
  sanitation Treves commend 651 ab
  treatment of amebic dysentery at, (11) 2234—ab
Pancreas activity, inhibition of, by extracts of suprarenal and pituitary bodies, (38) 1462—ab
  acute disease of, mechanism of shock in (128) 170
  and biliary passage, jaundice due to disease of, (15) 1106
  and ovary, reciprocal relations of, and internal secretion of corpus luteum, (123) 1742—ab
  and stomach, action of hydrochloric acid on secretion of ferments in (71) 875
  benign and malignant diseases of, (124) 170—ab
  cancer of body of, (45) 1908—ab
  cyst of calcified (28) [illegible]
  cystic tumors of (114) 1277
  diseases of, diagnosis and treatment, (17) 2093
  disease results of operations in, (162) 171
  diseases urinary symptoms in *587
  ferments in therapeutics (77) 715
  function, testing (10) 73—ab
Pancreas gastrointestinal diseases and, (127) 170—ab
  hemolysin in, (61) 670
  insufficiency of, Loewy's sign of, (101) 860—ab
  physiology and chemical pathology of, in pancreatitis, (21) 2231—ab
  physiology of, (12) 170
  sarcoma primary of (125) 1471
  surgery of, (125, 129) 170—ab, (85) 622—ab
  surgery of, and cholelithiasis, (130) 170
Pancreatic activity, inhibition of, by extracts of suprarenal and pituitary bodies (47) 2302
  and intestinal juice, enzymes of, obtained through jejunal fistula, (60) 1732
  diabetes and gallstone (27) 2274 ab
  duct, changes in, and relation to chronic pancreatitis (117) 1111
  fistula, physiology and pathology of secretion of (81) 1550—ab
  fistula, secretion from and influence on it of antidiabetic diet, (68) 1380—ab
  insufficiency, (117) 1733
  juice and glycosuria, (19) 1111
  reaction, illustration of crystals of, (5) 2000
  secretion, diagnostic importance of, and method for obtaining, from stomach (67) 1980—ab
Pancreatitis, acute, (58) 624, (51) 792—ab
  acute operative treatment of, (64) 788—ab
  and gallstone disease, *377
  chronic, *374, (55) 624
  chronic changes in pancreatic duct and (117) 1111
  chronic drainage of gall bladder in, (79) 2187
  diagnosis of, (22) 2231—ab
  diagnosis and treatment of, (83) 1649 (7) 2189
  etiology and pathogenesis of, (20) 2234—ab
  pathology and diagnosis of, (51) 1641
  physiology and chemical pathology of pancreas in, (21) 2234—ab
  suppurative (145) 1118—ab
  surgical treatment of, (24) 2274—ab
  with illustration of crystals of pancreatic reaction (5) 2000
Panhysterectomy, impacted shoulder—tonic contraction of uterus—removal of uterus and contents by, (30) 872
  preservation of ovarian tissue in, (47) 75—ab
Pansinuitis, method of operating for, (29) 1167
Papilloma, intracystic, of accessory thyroid, (46) 445
  of cornea, (123) 1905
  of larynx in children, (92) 2092
  subglottic, cured by laryngotracheal fissure (63) 1280
Para appendicitis, treatment, (100) 84
Parabiosis and pancreatic diabetes, (107) 81—ab
Paracentesis of pericardium in tuberculous pericarditis, embolic hemiplegia three days after, (11) 1183
Paradysentery and similar affections in children, (107) 1116
Paraffin, correction of nasal deformities, (134) 1906
  injection, permanence of improvement in shape of nose obtained by (20) 1644
  prothesis, (89) 1040—ab, *2028
Paralysis See also Paresis and Palsy
Paralysis, (143) 442
  abducent after spinal anesthesia, (88) 1040
  acute ascending, Landry's type, with recovery, (52) 257
  acute of stomach, with secondary occlusion of duodenum (122) 717
  agitans, differential diagnosis of, from paralysis, (31) 2186
  and epilepsy, due to germ" (17) 73—ab
  and tabes in light of recent research on syphilis, (72) 1552—ab
  brachial birth, (47) 867—ab, (17) 1816—ab
  bulbar, followed by progressive muscular atrophy (12) 1287
  complete of both third nerves tubercle loss of brain with (27) 1891
  differential diagnosis of functional from organic and from other lesions (71) 2186
  diphtheritic (94) 374
  diphtheritic, treatment of, (111) 64—ab
  during Pasteur treatment, (55) 1380
Paralysis Erb's congenital syphilitic osteochrondritis simulating, (47) 2002
  facial, peripheral, of syphilitic origin, diagnostic importance of its recognition, (29) 2186
  facial, surgical treatment of (98) 1907
  general and syphilis precipitin reaction in (72) 356
  general and tabes, pathology and treatment of, (4) 2093—ab
  general, diagnostic importance of inequality of pupils in (39) 953
  general in childhood, *1946
  heat nature of, in nervous tissues, (7) 1278
  infantile, *1677
  infantile, epidemic, *112
  infantile, nerve anastomosis in, (16) 748—ab
  infantile, surgical treatment of, (30) 1167
  infantile treatment of, (12) 73—ab, (41) 1555
  infantile treatment of deformities of (67) 1612—ab
  infantile, with scoliosis and muscular atrophy, (43) 1907
  ischemic method of dealing with, (98) 77
  isolated of external rectus with otitis media, (74) 579
  juvenile from inherited syphilis, (101) 1560
  Landry's recovery, (52) 257
  musculospiral, due to dislocations of head of radius (47) 1034—ab
  nervous, after injury of arm, (91) 2194
  of abducent nerve with otitis media, (195) 1282
  of brachial plexus and involvement of sympathetic unilateral paresis of diaphragm from, (77) 1381
  of larynx cervical tumors simulating, with enlarged glands, (22) 1467
  of larynx, peripheral, recurrent, (15) 428—ab
  of larynx recurrent and abductor, (15) 255, (6) 706, (6) 865—ab, (81) 2091, (82) 2092
  of muscles and retching relations between, and apomorphin poisoning (83) 1381—ab
  of recurrent laryngeal nerves of peripheral origin, etiology of, (83) 2092
  of trochlearis, and herpes zoster ophthalmicus, (129) 1982
  progressive and congenital syphilis (112) 1561—ab
  recurring, chronic interstitial nephritis and, (169) 171
  spastic spinal, in adult, tenotomy of psoas magnus, psoas parvus and iliacus in, (103) 1826—ab
  spinal acute ascending histology and classification of, (70) 539—ab
  syphilitic, (58) 81—ab
  traumatic, of cervical sympathetic, (56) 954
  traumatic, operative treatment of, (92) 1559—ab
  treatment of, by plastic operations on nerves, (107) 633—ab
  Volkmann's ischemic, (37) 1572—ab
Paramecium, adjustment of, to distilled water and its bearing on problem of necessary inorganic salt content, (46) 1817—ab
Paranoia and delusions (68) 1193
  types of, (88) 869—ab
Paranoiac, (21) 348—ab
Paraplegia, (11) 1283
Parasites, abundance of in fatal pernicious malaria, (5) 442
  animal, of man, prevalence and distribution of, in Philippines, their possible influence on public health, (30) 1185
  eggs of facilitation of detection of, in stools (61) 1193—ab
  found in New York, (29) 1816
  human, in Palestine, hirudinea as, (50) 1039
  intestinal elimination of first step in solution of tuberculosis problem in Philippines, (12) 2235—ab
  intestinal locating outside of intestine (59) 954
Parasitic disease, new (138) 1043
  flagellata and ciliata of intestinal tract, cultivation of, (95) 869
Parasyphilitic affections and syphilitic infection, deviation of complement in (153) 360
Parathyroid emulsion tetany following thyroidectomy cured by subcutaneous injection of (32) 1033
  insufficiency, albuminuria in, (124) 450—ab
  treatment of pregnancy albuminuria and eclampsia, (119) 1651—ab
Parathyroidectomy, arrest of growth in rats by, (55) 632
  experimental tetany after, (83) 632
Parathyroiditis chronic, results of, as obtained by ligation of parathyroids in dog (100), 869
Parathyroids, (83) 948, (96) 2004
  and lime content of body, (85) 1194
  and thyroid, *25
  and thyroid, anatomy of, (32) 591
  ligation of, in dogs, results of chronic parathyroiditis as obtained by, (100) 869
  pathology of (32) 262—ab, (110) 869
Paratyphoid (102) 1710
  and melena in new born (62) 264 ab
  and typhoid in Palatinate during 1903 1906 (81) 1194
  Bacilli: See Bacilli
  clinical and bacteriologic study of, (120) 1117
  group in man bacteria of, occurrence of, (57) 264
Paré Ambroise,—man and surgeon, (142) 534
Paresis See also Paralysis
  and locomotor ataxia, (7) 255—ab
  functional of extremities, new sign of, (23) 2276—ab
  general, (152) 1734
  malingering and functional of lower extremities new sign for detection of, *716, *1909
  of abductors of vocal cords and laryngeal vocal cords, *815
  tumor of frontal lobes, with symptoms simulating, (73) 792
  unilateral, of diaphragm from total paralysis of brachial plexus and involvement of sympathetic, (77) 1381
Parotitis, acute slow pulse rate in, (195) 450—ab
  double suppurative complicating typhoid in childhood, *2216
  experimental, *668
  from pneumococcus infection, (130) 178—ab
  non suppurative involvement of labyrinth in *1961
  postoperative, (34) 173—ab
  suppurative following abdominal operations, (112) 534—ab
Parturition See Labor
Passages, biliary, results at Hochenegg's clinic of operations on, (95) 715
Pasteur treatment paralytic accidents during (55) 1380
Patella, fracture and refracture of, treatment (29) 1736—ab
  fractured, (106) 949, *1944
  fractured, apparatus for, (65) 792—ab
  fractured, screw apparatus to promote healing of, (87) 1391—ab
  fractured, treatment of, (72) 169—ab
  removal of, for ununited comminuted fracture (81) 533—ab
  tendon suture of, (7) 72
Pathogenesis of local tetanus, (105) 1041
Pathognomonic signs fallaciousness of, in diagnostic work, (55) 168—ab
Pathologist clinician and layman, correlation of, *191
Pathology, anatomy and therapy of chronic endometritis, (58) 2193—ab
  and anatomy of hernia sac, (5) 1111—ab
  and bacteriology of acute rheumatism (128) 1553
  and bacteriology of plague, (68) 1818
  and diagnosis study of, should not lessen confidence in intelligent use of drugs, (82) 1186
  and modern surgery, (30) 1462
  and physiology of emotions, physical basis of mental etiology, (8) 865
  and physiology of gastric secretion, (28) 2089
  and physiology of play of pupils (62) [illegible]
  and public health, coordination in, (10) 1111
  chemical, and physiology of pancreas in pancreatitis (21) 2231—ab
  clinical review of, (29) 261
  experimental apparatus of service in (102) 8 9
  functional of primitive cardiac tissue, (24) 765
  in dental colleges *30
  living, of operating table Its observation a necessary means to accurate diagnosis in abdominal diseases (140) 19 6
  rev (19) 1-16
  physiologic, teaching of at University of Michigan, (55) 2004

Pathology, practical bearing of, on treatment of certain skin diseases, (93) 259
  of fistula between stomach and colon, (97) 448—ab
  review of, (46) 947
Patient, examination of, (98) 1466
  importance of making cough during auscultation of lungs, (160) 1037
  personal experiences of, in hospital for insane, (56) 257, (96) 626, (161) 1037, (103) 1187, (87) 1643
  preparation of, for normal labor, (84) 2189
Patients, allowing to get up early after laparotomy, (119) 1561—ab, (131) 2197
  care of, after laparotomy, *845
  postoperative, care of, with reference to intestinal and renal functions, (27) 866
  typhoid, nourishment of, (80) 1732-ab
Pearls, enamel, (39) 712
Peace, work, progress, opportunity for, (43) 946
Pediatric practice, analgesics in, (64) 257
  practice, indication for stimulants in, (62) 257—ab
Pediatrics, fresh-air treatment in home as applied to, *1505
  in Chicago hospitals and dispensaries, (90) 1819
  is study of, worth attention it gets, (99) 949
  need of postgraduate study in, (43) 867—ab
  study of, 906—ab, (99) 949
Pellagra, *397, (147) 1044, *1076, (44) 1737
  experimental, blood in, (113) 1383
  prophylaxis of, hygienic care of grain in, (119) 878
Pelvic, abdominal, and labial tumor, (7) 2234
  abscess, high, conservative drainage of, (93) 1110
  abscess, due to appendicitis, rectal drainage in, (15) 711—ab
  abscess, rectal drainage in, (139) 353—ab, (15) 711—ab
  abscess secondary to peritonitis, (51) 355
  abscess, treatment of, (89) 169—ab, (80) 1825—ab
  and abdominal operations, plea for drainage in, (75) 2004—ab
  disease in women, ionic medication in, (19) 80
  diseases and diseases of mind and nervous system, (97) 1904—ab
  diseases of insane women, operations for relief of, (41) 623—ab
  exudates, gynecologic massage in treatment of plastic infiltration and, (47) 1113
  organs, displacements of, (22) 1736
  organs, female, treatment of acute infections of, (88) 169—ab
  pathology and sea sickness, (17) 2190—ab
  tumor, enlarged wandering spleen simulating, (20) 2093
  veins, ligation of, for puerperal pyemia, (124) 267—ab
  viscera, displacements of, pathology and operative treatment of, (37) 263—ab
  viscera, female, supports-in-chief of, (3) 260—ab, (36) 263—ab
Pelvis, actinomycosis of, (12) 944
  and femur, fractures of, trauma of kidney and impaction of pubic arch in bladder, (87) 948—ab
  acute abdominal lesions of, (23) 712
  apparatus for compressing, in operation for exstrophy of bladder, (99) 358
  chondrodystrophic dwarf, pathology and therapy of, (62) 1113
  contracted, Cesarean section versus other methods of delivery in, (9) 1377
  contracted, childbirth with, (64) 538—ab
  contracted, distribution, origin and prevention of, (77) 1194—ab
  contracted, hebosteotomy vs. other procedures in management of labor with, (25) 2001—ab
  contracted, management of labor in minor degrees of, and indications for abdominal Cesarean section, (46) 167—ab
  contracted, moderate or radical conservatism in treatment of, (97) 176
  development of, and age at first menstruation, (54) 2192—ab
  development of, in lambs, influence of castration on, (60) 538
  dislocation of, (78) 2097
  does weight of trunk influence shape of, (114) 1117
Pelvis, female, fluctuating tumors of, diagnosis and treatment of, (139) 1188
  female, intra-abdominal pressure and visceral support, (39) 1646—ab
  female Japanese, comparative size of, (59) 538
  female, models of cross sections of, for topographic representation of hemorrhage, inflammation and neoplasms, (126) 1561
  lesions of, and constipation, mechanical vibration in treatment of, (7) 706
  myxoma of, true and false, (110) 1282—ab
  narrow, spontaneous childbirth with, (65) 1113
  outlet of, neglect of plastic surgery about, (57) 532—ab
  paradox position of, in scoliosis, (31) 1640
  rare dislocations of, (47) 797
  rare tumor of, in child, (23) 952
  sections of, vs. Cesarean sections, in mechanical obstructions to childbirth, (37) 707—ab
  small, removal of giant tumors of, with resection of pubic bone and symphysis, (65) 2193
  three procedures for entering, *912
  treatment of inflammatory disease of (56) 1034
  tumors of, displacement of ureter in, (8) 1377
Pemphigus, acute contagious, occurring in febrile diseases, (36) 1821
  chronic bullous, and septicemia from B. pyocyaneus, (40) 873
  foliaceus, (109) 793
  neonatorum, epidemic of, (44) 2002
Penis, ablation in one piece of epithelioma of, and its lymphatic territory, (52) 1738—ab
  amputation of, in syphilis, (125) 626
  amputation of, technic of, (114) 266
  clamp in acute gonorrhea, (26) 623
  dual malignancy in, (124) 626
  Deierck's fibers in (91) 2098
  lupus of, successfully treated with tuberculin, (40) 2187
  plastic operations on, to remedy congenital adherence of prepuce, (80) 1114
Pennsylvania State Medical Society of To-day, (115) 534
  why she should build, equip and maintain hospital for restraint, care and treatment of inebriates, (96) 169
People, surgical rights of, (125) 1037-ab
Pepsin and lab in fundus and pylorus of human stomach, and relations between action of pepsin and concentration of acid, (99) 1041
  clinical value of quantitative estimation of, (39) 1463—ab
  content in fasting stomach, (135) 85
  determination, simplification of Jacoby-Solms ricin method for, (2) 944—ab, (88) 1115—ab
  digestion, (72) 446
  digestion, influence of hydrochloric acid on, (80) 1558
  digestion, Schütz's law of, (46) 953
  Edestin test for, (92) 83
  elimination of, in urine, (95) 83
  in infant stomach and dependence of its digesting power on presence of hydrochloric acid, (97) 1116
  in stomach content, biuret test for, (169) 87
  law of action of, (172) 87
Percussion, light, importance of, in physical diagnosis, (65) 1375
  hammer and plessimeter for threshold percussion of heart, (89) 876
  resonance, tympanitic and non-tympanitic, graphic registration of, (96) 1041
Perforation, improved instrument for, (125) 717
  of alimentary canal by swallowed bodies, (107) 1282—ab
Periappendicitis, treatment, (109) 84
Periarteritis, nodose, (65) 630
  nodose, as consequence of staphylococcus sepsis after angina, (104) 266
Periarthritis of shoulder, (16) 1639—ab, (17) 1901—ab, (17) 2001, (19) 2234—ab
Pericardiectomy, experimental, and possible therapeutic application, (144) 1118—ab
Pericardiotomy and thoracotomy for wounds of heart, advances in technic of, (52) 1034
Pericarditis, acute fibrinopurulent, and hypopyon iritis, septicemia with, caused by meningococcus, (44) 1903—ab
Pericarditis and chronic adhesive mediastinopericarditis, surgical treatment of, (52) 954—ab
  fatal suppurative, in childhood, (30) 262
  in poisoning from mercury bichlorid, (65) 1039—ab
  tuberculous; embolic hemiplegia three days after paracentesis of pericardium, (11) 1183
Pericardium, paracentesis of, in tuberculous pericarditis, embolic hemiplegia three days after, (11) 1183
Pericolitis and mucous colitis, (14) 535—ab
Perilymphangitis of liver, (26) 73—ab
Perimysiitis crepitans and tendovaginitis, tendon sheaths of foot and, (76) 2193
Perineorrhapy for complete lacerations, ((33) 707
  new, technic of, (101) 352 (88) 1036
Perineum, buried catgut and intercutaneous suture in plastic operations on, (48) 531
  internal rotations and lacerations of, (18) 866—ab
  laceration of, complete, secondary repair of, (70) 2091—ab
  laceration of, treated by Simpson-Vicarelli technic, (40) 1907
  perineorrhaphy for complete lacerations, (33) 707
  protection and repair of, (142) 1188
  protection of, (129) 267, (122) 1561—ab
  repair of, (6) 1371
  repair of superficial lacerations of, with Michel's clamps, (96) 1110
  section of, for obstruction of prostatic urethra, (19) 866—ab
Perioste-edema, thoracic, of angioneurotic origin, (8) 1639—ab
Periosteum, neoformation of bone at distance from, (99) 266
  transplantation of, in bony ankyloses of joint, (56) 1822—ab
Peristalsis of intestines, increased, dissolved substances in stools with, (61) 1910
Perithelioma, ovarian, threatening internal hemorrhage from, (130) 359
Peritoneal adhesions, (84) 1110
  tuberculosis, (70) 169
Peritoneum, anatomy and surgery of, (14) 865
  dysmenorrhea as result of traction on. (109) 359—ab
  pelvic, primary implantation of ovum in, (29) 2001
  serous coat of blood vessels compared with, (32) 790—ab
Peritonitis, acute, (69) 631—ab, (64) 1465
  acute, before and during childbirth, (121) 717
  acute diffuse, following appendicitis, treatment of, (111) 78
  acute diffuse, in women, vaginal or suprapubic drainage in, (43) 1551—ab
  acute general septic, treatment of, (41) 1279—ab
  acute puerperal, experimental study of operative treatment of, (120) 1742—ab
  acute suppurative, diagnosis and treatment, (120) 1734
  acute tuberculous, in adults, (19) 536
  and appendicitis, treatment of, (100) 632
  and ileus, pulse in, (130) 267
  apparatus for continuous saline enemas in, *406
  causes of, during pregnancy, (13) 443
  chronic, with complete intestinal obstruction, *719
  diffuse, appendicitis with, (4) 260—ab
  diffuse, in woman, (81) 1110—ab, (28) 1640—ab
  diffuse, suppurative, (20) 536
  diffuse suppurative, adjustable canvas chair as aid to Murphy treatment of *1133
  diffuse suppurative, following appendicitis with perforation, (97) 626
  diffuse suppurative, treated without drainage, (127) 1037
  due to appendicitis, (2) 2185—ab
  fetal, (67) 2193
  general, diagnosis and treatment (172) 171, (85) 1110
  pelvic abscesses secondary to, (51) 355
  perforative, (124) 352—ab
  perforative and infective, (95) 1733—ab
  pneumococcal, (27) 872, (29) 1190
  pneumococcal, in children, (36) 1467
  postoperative complications of, (119) 260
Peritonitis, principles of treatment of, based on physiologic and pathologic conditions, (57) 1818—ab
  pseudotuberculous, from relics of vegetables, (143) 1118—ab
  puerperal, and thrombophlebitis, operative treatment of, (48) 630—ab
  tuberculous, (6) 2234
  tuberculous experimental, (126) 1644
  tuberculous, iodized gelatin in, (131) 1743—ab
  tuberculous, medical treatment of, (132) 1562—ab
  tuberculous, oxygen in, (15) 865—ab
  tuberculous, retroperitoneal tumor connected with kidney simulating ascites from, (2) 1038
  tuberculous, statistics of, at Johns Hopkins Hospital, (42) 1464—ab
Permanganates, an attempt to rehabilitate, (28) 1645—ab
Peroneus, silk tendon as substitute for, (69) 264
Peroxids, action of on digestive organs (91) 1040
Personal factor in disease, (15) 1549
Personality, case of alternating, *9
Pertussis: See Whooping Cough
Pessaries, mishaps from, (110) 1289
Pessary, antiprolapse, (98) 799
  inflatable, for hemorrhoids and prolapse, (96) 265
  treatment of convoluted uterus, (92) 1195
Pessimism, therapeutic, (105) 1904
Pfannenstiel's transverse incision of fascia, advantages of, (82) 875
Phagocytosis, (81) 1194
  checking of, in reagent glass by culture filtrates, (107) 1913
  contrast staining of bacteria and leucocytes in research on, (61) 630
  in human blood serum when mixed in vitro with horse serum, (5) 951—ab
Phalanx, distal, fracture of, from tearing off of extensor tenden, (60) 174
Pharmacist and physician, (107) 169, (105) 352
  and physician, relation of, to U. S. Pharmacopeia and National Formulary, (106) 169
  manufacturing, what he does for the physician, (75) 1904
Pharmacists, should they manufacture and dispense? (80) 533
Pharmacodynamic action, physicochemical properties and chemical constitution, (85) 799
Pharmacologic preparations, scientific tests of, are physicians justified in taking pay from manufacturing chemists for? (65) 1648—ab, (105) 2011—ab
Pharmacology and therapeutics, necessity of added emphasis in teaching of, (25) 623
  new fundamental principle in, (86) 2195—ab
Pharmacopeia and N. F. preparations, (107) 352
  as legal standard, *2020
  as standard for medical prescribing, *2013
  French, modifications in, (60) 1286, (47) 1646
  Swiss, new, and physician, (75) 1824
  Swiss, new edition of, (84) 265
  U. S. and National Formulary, need of more intimate knowledge of among physicians, *2018
  U. S. and National Formulary preparations vs. proprietaries, (46) 1185
  U. S. and National Formulary, relation of physician and pharmacist to, (106) 169
  U. S., from physicians' standpoint, (131) 260
  U. S., a therapeutic standard, (77) 1280
Pharmacy and medicine, *1832
  and medicine, Kant's relations with, (107) 358
Pharynx, nose and mouth surgery, general anesthesia in, (9) 438—ab
  lower, total extirpation of, for epithelioma, with permanent esophagostoma, (3) 1815—ab
  primary erysipelas of, *316
  tuberculosis of, (62) 446
Phenolphthalein, accidental overdose of, *1782
  action and dosage of, (7) 1931—ab
  action of, and fermentative power of polypus secretion in extensive polyposis of colon and rectum, (97) 1041
  purgative properties of, (43) 263—ab
Phenyl derivatives of fatty acids, oxidation of, in animal organism. (44) 1731

Philippines, board for study of tropical diseases as they occur in, (103) 1733
  fevers of, simple and double continued, (81) 169
  frequent reappearance of cholera in, cause of, (66) 532—ab
  hydrophobia in, *2143
  medical work in, (55) 1903
  obstetrics in, (34) 1185—ab
  prevalence and distribution of animal parasites of man in, (30) 1185
  tuberculosis problem in, elimination of intestinal parasites first step in solution of, (12) 2233—ab
  water supply of, (68) 532
Phimosis, operation for, (120) 430
Phlebitis following abdominal operations (103) 1110
  of left leg following unoperated appendicitis, (43) 707—ab
  of sigmoid sinus, jugular bulb and internal jugular vein, and encephalitis and purulent meningitis, complicating mastoiditis (83) 1552
  postoperative, (43) 707—ab
  postoperative femoral, (111) 534—ab
  varicose epigastric veins, following, (30) 945—ab
Phlegmon, gaseous, pathologic importance of bacillus of, (127) 1474
  neutral potassium oxalate in, (111) 2099—ab
Phloridzin diabetes, action of glutaric acid on, (55) 954
  glycosuria, production of sugar from glutamic acid ingested in, (72) 350
  glycosuria, sugar excretion in, influence of cold and mechanical exercise on, (71) 350—ab
  test of kidney functioning, (110) 177—ab
Phosphaturia and oxaluria, (54) 1039
Phospho-oxychlorid gas, industrial, poisoning by (101) 1289
Phosphorus cod-liver oil, influence of, on metabolism of lime, (92) 265
  intoxication followed by tetany, (137) 1474
  intoxication, influence on formed elements of blood, (102) 83
  necrosis, treatment of, (54) 355—ab
Photographs and moving pictures of operations, apparatus for securing, (38) 1551—ab
Photography, color, for stereoscopic work, (110) 1116
  color, in medicine, (132) 85
  color, Lumière process of, in medicine, (126) 1734
Phototherapy of lupus, (54) 2036—ab
Phthisis: See Tuberculosis
Physical deterioration and national efficiency, relation of alcohol to, (44) 349
  signs, physics of, and respiratory murmur, *390
Physician, administration of drugs by, or does self-administration pay? (65) 709
  and his relation to society, (183) 951
  and laity, (75) 948
  and medical ethics, (189) 171, (97) 1733
  and new Swiss pharmacopeia, (75) 1824
  and pharmacist, (107) 169, (105) 352
  and pharmacist, relation of, to U. S. Pharmacopeia and National Formulary, (106) 169
  and priest, (8) 1901—ab
  and sanitation, (117) 869
  and school advice, (144) 1188
  as citizen, (41) 946
  as political factor, (56) 1465
  as public educator, (7) 530—ab
  as teacher, (102) 534
  attitude of, to tuberculous patient, (116) 78—ab
  country, nostrum and proprietary medicine problem from standpoint of, (72) 709
  country, relations of, with metropolitan institutions and specialists, (1) 1031
  Dante, (21) 1278, (18) 1372, (18, 23) 1462, (22) 1559
  in court, (26) 790
  malpractice from, standpoint of, (138) 1820
  mission of, (127) 534—ab
  old-time, (115) 1819
  relation of, to administration of justice, (20) 866
  relation of, to mental healing systems and methods, (96) 710—ab
  responsibility of, for future of child with adenoids and impaired hearing, (42) 1374—ab
  tracheal tube with device to protect him against coughed out material, (74) 1287
Physician, role of, in producing or maintaining imaginary maladies, (47) 1374—ab
  vacation of, (5) 530
  what manufacturing druggist does for, (75) 1904
  when shall he distrust his own judgment in surgery, (62) 868-ab
  wife of, (97) 1466
Physicians and public affairs, (87) 710—ab
  are they justified in taking pay from manufacturing chemists for scientific tests of pharmaceutic preparations? (65) 1648—ab, (105) 2011—ab
  Dickens' and things medical, (80) 2189
  in Colorado for tuberculosis, (115) 1644
  must be sociologists, (76) 1732—ab
  need of more intimate knowledge of U. S. Pharmacopeia and National Formulary among, *2018
  of Samuel Johnson and his court, (145) 78
  of to-day and to-morrow, (94) 1733 —ab
  overproduction of, (69) 1185—ab
  responsibility of, for use of nostrums, *2022
  should they dispense? (80) 533
Physico-chemical properties, chemical constitution and pharmacodynamic action, (85) 793
Physics, what subjects can be practically included in year's work in? (19) 707
Physiologic actions, temperature coefficient of velocities of, (49) 1108
  assay of nitroglycerin tablets, digitalin tablets and fluidextract of ergot, *2130
Physiology and chemical pathology of pancreas in pancreatitis, (21) 2234—ab
  and pathology of emotions: physical basis of mental etiology, (8) 865
  and pathology of gastric secretions, (28) 2089
  and pathology of play of pupils, (62) 954
  and pathologic physiology of arrest of postpartum hemorrhage, (82) 447—ab
  comparative, of invertebrate heart, (51) 1108
  of circulation, practical aspects of, (37) 440
  of digestive system, (73) 2004—ab
  of heart contractions, (71) 539—ab
  of pulsating blood vessels in worms, (51) 1108
  of purin metabolism, (24) 1038
  of respiratory organs, (96) 1560 —ab
  pathologic, importance of proteolytic leucocyte ferment in, (96) 2099—ab
  relation of, to physics and chemistry, (9) 1283
  study of by general practitioner, (161) 78
  when should it be taught at college, (78) 76
Physiotherapeutics in chronic diseases, (67) 76
  in rheumatism, (100) 77
Physique, national and military service, (8) 1111
Physostigmin and curara, action of, on muscles, (44) 1817
Pia arachnoid, osseous plaques of, and pain in acromegaly, (91) 1376 —ab
  mater, glioma of brain involving, (7) 2185
Picric acid in trachoma, (142) 268
Pigment, biliary, determination of, and its clinical importance, (122) 359
Pigmentation, after prolonged administration of silver preparations, (125) 634
  local, in tuberculosis, 309—ab
Pilocarpin in strychnin poisoning, (129) 793
Pin imbedded in vein 4 years, *1509
Pipettes, simple and efficient device for filling and emptying, *756
Piroplasma bovis and piroplasma pithеci in circulating blood, mode of multiplication of, compared with that of piroplasma canis, (47) 1039
  canis, morphology and life history of, (42) 1038—ab
  pitheci and piroplasma bovis in circulating blood compared with that of piroplasma canis, mode of multiplication of, (47) 1039
v. Pirquet's Cutaneous Reaction: See Tuberculin Skin Reaction.
Pituitary and suprarenal bodies, inhibition of pancreatic activity by, extracts of, (38) 1463—ab
  body, active principle of, and diuretic action of adrenalin, *1849
  body, changes in, after removal of thyroid, (18) 1111
  body, probable tumor of, with optic atrophy following premature menopause (179) 171
  extracts, inhibition of pancreatic activity by, (43) 2002
Pityriasis rubra, diagnosis and treatment of, (125) 1043—ab
  versicolor, tropical forms of, (116) 1188
Placenta and membranes involved in fetal ichthyosis, (37) 1816
  blood, negative results of injections of, in carcinoma, (54) 797
  formation of, (62) 1738
  function of, (95) 2011—ab
  juice, isolated surviving dog kidneys flushed with, (136) 359
  normally implanted, intrauterine hemorrhage during pregnancy and from premature separation of, (50) 1551
  normally located, prolapse of, (110) 359
  normally situated, premature detachment of, *1845
  prævia, air embolism with (123) 1561—ab
  prævia, danger with, of natural straining to aid delivery, and extraperitoneal selection of uterus as means to reduce it, (112) 1651 —ab
  prævia, metreurynter for, (101) 632-ab
  prævia, treatment of, (21) 531 (59) 2193—ab
  prævia, version with, advantages of water bag over, (122) 1827—ab
  premature separation of, cause of, (16) 73—ab, (18) 1815
  syncytioma or chorioepithelioma of, (29) 167—ab
  syphilitic, spirochæta pallida in, (82) 2004—ab
  toxicology of, (55) 1647—ab
  transmission of B. typhosus in, (52) 532—ab
  triplet pregnancy and site of, (91) 956
  tumor, (56) 1113
  weight of, in relation to new-born child, (114) 78—ab
Plague, (122) 1644
  are domestic animals of India affected by? (25) 628
  bacilli, how flea clears itself of, (28) 628—ab
  bacillus, differential diagnosis of, (30) 628
  bacillus, preservation of, in body of bedbug, (51) 445
  bacteriology and pathology of, (68) 1818
  early diagnosis of, (32) 1555—ab
  great black, (117) 1037
  how it is spreading in Venezuela and Trinidad, (17) 706
  human, septicemia in, experiments on infectivity of excreta, (26) 628—ab
  in Algeria and Tunis in 1907, (60) 1469—ab
  in California and antiplague campaign, *1010
  insects in epidemiology of, (24) 628—ab
  measures against, underlying principles of, (70) 1185
  mode of spread and prevention of, (1) 944, (45) 1112
  preventers, cats as, (8) 1820—ab
  prophylaxis at Rio de Janeiro (32) 2094
  seasonal prevalence of, in India, (29) 628
  spots, municipal, duty of city toward (65) 76
Plants and health of man, chemistry and effects of bituminous coal smoke on, (8) 1815—ab
  dermatitis from, (137) 85
Plaques, osseous, of pia arachnoid and pain in acromegaly, (91) 1376—ab
Plasma cells and endometritis, importance of, in inflammation, (132) 359
  individual, (9) 710
Plaster-of-Paris in surgery, (170) 950
  jacket, sling for application of, (112) 1819
Plessimeter and percussion hammer for threshold percussion of heart, (89) 876
Plethysmogram, absolute, (109) 1289 —ab
Pleura and lung, reactions of surface of, (67) 82
  attempt to prevent adhesion of, after inflammation, (9) 1644—ab
Pleura, endothelioma of, (3) 2000 (77) 1381
  primary tumor of, (121) 634
  sound, treatment of operative pneumothorax in, (46) 2192—ab
Pleural cavities, drainage of, double empyema with, (29) 1462
  cavity, diagnosis of pus in, (115) 2026
  reflexes, (28) 1107
Pleurisy and pulmonary tuberculosis, (9) 166
  paravertebral area of dulness in, (98) 1472—ab
  traumatic pulsating, (30) 623
Pleuritic effusions, pressure in, (69) 174—ab
Pleuropneumonia, acute leucocytic, with extensive fibrinous plugs visible to naked eye in enlarged lymphatics, (24) 536
Plexus, brachial, paralysis of, and involvement of sympathetic, unilateral paresis of diaphragm from, (77) 1381
  solar, pathologic anataomy of, in consumptives, (49) 538
Pneumatic cabinet, affections in which it is indicated, (86) 265 —ab
Pneumaturia, intermittent, for 3 years, stone in bladder with, and subsequent formation of fecal fistula, (111) 260—ab
Pneumococci phagocytability of, in sputum in pneumonia, (27) 256
Pneumococcus arthritis, (77) 2091
  cultures and antiserum, injection of, for corneal ulcers, (101) 541
  in blood in pulmonary tuberculosis, (60) 1823—ab
  infection and mixed streptococcus of orbit and adjacent sinuses, (111) 1905—ab
  infection, opsonins and antiphagins in, (62) 1039
  infection, parotitis from, (130) 178 —ab
  meningitis as direct result of severe trauma of skull five years before, (101) 1826
  peritonitis due to, (29) 1190
  peritonitis due to, in children, (36) 1467
  serum, Römer's in croupous pneumonia, (89) 1740
  serum treatment of infecting corneal ulcer, (92) 1115
  stomach affection, (80) 875—ab
Pneumonia, (35) 1185, (149) 1188, (119) 1466
  abortive, (117) 1289
  acute, striæ atrophicæ as sequel of, (23) 1190—ab
  and influenza, relation of anticyclonic weather to prevalence of, on northern hemisphere, *660
  brief, (91) 1740
  croupous, leucocytes with Sudan-staining granules in, (98) 956
  croupous, meningism and meningoencephalitis in, (105) 1473—ab
  croupous, recurrences of, (110) 1561 —ab
  croupous, Römer's pneumococcus serum in, (89) 1740, (107) 1826
  croupous, serumtherapy of, (118) 2196
  croupous, vocal fremitus in, (97) 1559
  diagnostic importance of composition of urine in, (109) 877—ab
  digitalis in, *2214
  double septic, and double empyema, case with, (29) 1462
  embolic tuberculous, following massage of tuberculous glands in neck, (90) 1559
  epidemic, (117) 1914
  gangrene of extremities after, (20) 952—ab
  in childhood, (63) 168, (26) 872 —ab, (12) 951
  in infancy, diagnosis of, *285
  in infants, ambulatory treatment of, *286
  infection, and prophylaxis by cytocera (118) 1560
  influenzal, and influenza, (23) 1816 —ab
  lobar, and bronchopneumonia, symptomatology and diagnosis of, in children, (46) 623
  lobar, diagnostic value of sense of weight in affected side, (24) 2186 —ab
  lobar, pathology and treatment of, (45) 946
  lobar, uncomplicated, treatment of, (37) 2191
  metabolism of salt in, (70) 446—ab
  plus yellow atrophy of liver in girl of 10, (100) 266
  on Isthmus of Panama, (10) 1371 —ab

Pneumonia, specific skin eruption in, (16) 2190—ab
  sputum, bilirubin content of, (113) 717
  sputum, pneumococci in, phagocytability of, (27) 256
  treated by continuous inhalation of oxygen, (21) 712—ab
  treatment of, (90) 77, (21) 790—ab, (120) 1111
  types of, with inflammation of adenoids, (7) 1276
Pneumonokoniosis, etiology and prevention of, (17) 1038
Pneumohemothorax, rupture of lung, and fracture of ribs, (34) 1378
Pneumopleuritis followed by pulmonary abscess, (61) 1642
Pneumothorax, (78) 869—ab, (32) 1378
  artificially induced, influence of, on tuberculous lung, (66) 1558—ab, (47) 2095, (85) 2098)—ab
  artificially induced, indications and results, (42) 2095
  chronic, (124) 2197
  operative, treatment of, in sound pleura, (46) 2192—ab
  traumatic, *1971
  value of Sauerbruch negative pressure procedure in prevention of, *808
Podophyllin and calomel habit, (122) 793
Poehl's principles and preparations, (122) 1290
Poison, nerve, specific, negative food value of alcohol and its action as, (118) 634
Poisoning, alcoholic and metallic, causing neuroses, (186) 951
  and abortion by yew, (109) 1741—ab
  apomorphin, and relations between retching and paralysis of muscles, (83) 1381—ab
  atoxyl, pathology of, (67) 1193—ab
  belladonna, *1696
  bi-nitrobenzin, chronic, (8) 1189
  bismuth, (4) 2234
  bismuth, fatal, (116) 2012—ab
  chloroform, (76) 1642
  cantharides, acute, (8) 1282
  from fishberries used as abortifacient, (101) 2099
  homatropin, by instillation, (100) 442
  hydrazine pathologic anatomy of, (151) 870
  industrial phospho-oxychlorid gas, (101) 1289
  lead, cause of, in tinning metals, (27) 2191—ab
  lead, curiosities of, (126) 442
  lead, diagnosis and prophylaxis of, (139) 267
  meat, (65) 954—ab
  mercury bichlorid, pericarditis in course of, (65) 1039—ab
  morphin, industrial, (88) 2010—ab
  nitrite, from bismuth subnitrate, (73) 1558
  oxalic acid, (71) 1738
  phosphorus, (102) 83, (137) 1474
  resorcin, from external application, (102) 358—ab
  tea and coffee, (46) 349
  veronal, acute, symptomatology, prognosis and therapy of, (87) 265—ab
Poisons, various bacterial, behavior of human skin in response to, (128) 359
Police power of state, sanitary power as, (52) 2188
Polioencephalitis, infantile, (52) 1552
  superior, with autopsy, (38) 256
  syphilitic, (36) 2094
Poliomyelitis, acute, epidemiology of, (40) 167—ab
  acute, following tonsillitis, (4) 1549
  anterior, (43) 2090—ab
  anterior, cerebrospinal fluid in, (153) 870
  anterior, acute, (22) 80, (4) 1183—ab, (85) 1643, (13) 706
  anterior, acute, in adult, (14) 706
  anterior, acute, disease of primary motor neurons causing clinical picture of, result of poisoning by potassium cyanid, (71) 792
  early orthopedic treatment in, necessity for, (119) 1553—ab
  in infancy, muscular dystrophy following, (116) 949
Pollinosis or hay fever, (157) 950
Polyarthritis, recurring tuberculous, (112) 800—ab
Polyclinic, 500 B. C., represented on Greek vase, (72) 82
Polycythemia, *1230, (122) 1652—ab
  and blood pressure, (80) 2009—ab
  with cyanosis, *1777
  with and without enlargement of spleen, (93) 632
Polygraph, inky, (12) 172
Polymyositis, acute, (105) 1289
Polyneuritis, generalized, *cases of*, *28
Polyp formation, rhinedema with, (118) 1037
  secretion in extensive polyposis of colon and rectum and action of purgative, (97) 1041
Polyposis of colon and rectum, extensive, fermentative power of polypus secretion in, and action of purgative, (97) 1041
Polyps in stomach, (100) 448—ab
  multiple, of intestine, healing intussusception in, (35) 1640
Polyuria, essential, improved by abstinence from salt, (69) 82
Pons, hemorrhage into, renal changes in, with consequent high blood pressure, (51) 1468
Poor-law *medical service*, reformed, voluntary hospital and, (10) 261
Poor of London, dental needs of, (16) 261
  of Rome, nervous affections among, (139) 718
Portwine *marks and hypertrichosis*, involving both sides of face, removed by x-rays, (38) 873
Portal vein, thrombosis in, (103) 266
Portio vaginalis, transplantation of epithelium of vagina to cure erosions in, (140) 1117
Porto Rico as a field for research in *tropical medicine*, (16) 166
Postgraduate instruction in pediatrics, need of, (43) 867—ab
  study in Berlin, (26) 866
  study in Europe, (110) 1466, (99) 2092
Potassium cyanid, biochemical and anatomic changes induced in dogs by, (11) 348
  cyanid, disease of primary motor neurons causing clinical picture of acute anterior poliomyelitis, result of, poisoning by, (71) 792
  iodid, action of, (167) 87
  iodid, effect of, on activity of ptyalin, (62) 350—ab
  iodid in suppuration in nasal accessory cavities, (74) 1558
  oxalate, neutral, in phlegmons, adenitis, and white swelling, (111) 2099—ab
Pott's-disease, (70) 441
  appliance for reducing hump in, (64) 446
Poverty and tuberculosis, (21) 2001
Practice, acquiring, (89) 710—ab
  contract, in Germany, (73) 1375
  general, importance of autopsies in, (55) 2090
  general, mental and nervous diseases in, (175) 171
  general, vaccines in, (4) 1466—ab
  general, vaginal Cesarean section in, (65) 264—ab
  medical, interrupted currents in, (15) 1283
  medical, tact in, (60) 168
Practitioner, country, the average, *shall he testify before our juries* as medical expert? (92) 1819—ab
  general, and deaf mutism, (36) 1736
  general, and x-ray treatment, (97) 540—ab
  general, artificial infant feeding for, (40) 1816
  general, attitude of, toward eyestrain, (24) 1278
  general, clinical examination of *urine and gastric juice* by, (5) 1734
  general, clinical types of eclampsia as viewed by specialist for benefit of, (37) 349
  general, his need of bacteriology, (123) 793
  general, *immediate* treatment of serious ocular conditions frequently first seen by, (2) 789—ab
  general, necessity of his knowing when an operation should be done, and of surgeon being conservative as to operation, (131) 1820
  general, obstetrical work from standpoint of, (40) 1108
  general, rise of, (17) 2006
  general, study of blood by, (98) 1382
  general, study of pediatrics by, (99) 949
  general, study of physiology by, (161) 78
  general, treatment of acute appendicitis by, (4) 1734
  general, treatment of negligent speech by, (7) 789
  general, use of laboratory methods by, (104) 169—ab, (120) 534
Practitioners, Bier's method for, (15) 795
  general, ophthalmology for, *1833
Pragmatism and medicine, (113) 626
Precancerous morbid states, (141) 797—ab
Precipitin reaction in syphilis and *general paralysis*, (72) 356
Predisposition, constitutional of lymphatics, to disease, (107) 177—ab
  hereditary, *1221
Pregnancies, multiple, in double uteri, (50) 2002
Pregnancy, abdominal, (112) 359, (115) 1117, (124) 1377, (65) 1903, (129) 1906—ab
  abdominal secondary, with living child at term, (145) 268
  abdominal ectopic, of seventeen months' duration, (128) 1906
  affections of optic nerve in, (101) 877—ab
  albuminuria and eclampsia, parathyroid treatment of, (119) 1651—ab
  albuminuria in, (53) 867
  amaurosis in, (118) 177—ab
  and appendicitis, (97) 358, *1310, (30) 2237
  and childbirth, and axial torsion of large intestine, (116) 1117
  and childbirth with congenital mitral stenosis, (30) 712—ab
  and diabetes, (63) 1113—ab
  and early infancy, syphilis in, (51) 1279
  and gonorrhea, (133) 442
  and heart disease, (43) 1279—ab
  and labor complicated by rectal cancer, (42) 1284
  and labor following ventrosuspension of uterus for retrodisplacements, (39) 707—ab
  and labor, surgical necessities during, (91) 625—ab
  and larynx, (92) 716—ab
  and ovulation, forensic aspects of, (78) 1558
  and pernicious anemia, (38) 623—ab
  and puerperium, appendicitis in, (62) 630
  and puerperium, prognostic value of nuclear count in, (49) 867—ab
  and puerperium, sudden death during, (155) 1037
  at nine years of age, (48) 440
  autotoxemia of, (61) 2091
  causes of peritonitis during, (13) 443
  chorea during, (39) 265—ab
  complicated by malformation of vagina and uterus, (93) 1643
  complicated by tuberculosis, (23) 439, (18) 622
  complicated by uterine cancer, (90) 1825
  complicated by uterine fibromata in a hemiplegic, (134) 442
  complicating thrombosis of superior longitudinal and lateral sinuses, *997
  computation of conception, menstruation and duration of, (108) 1041
  concealed hemorrhage in, contrasted with extrauterine pregnancy, (30) 1107
  conservatism in surgery of uterine adnexa for preservation of possibility of, (66) 1465—ab
  dermoid cyst removed without interrupting, (27) 1372
  duration of, (74) 82, (61) 2192
  extrauterine, (21, 26) 167, (59) 168—ab, (112) 359, (117) 534, (32, 33, 34, 37) 623, (36) 623—ab, *840, (153) 1037, (73) 1109, (115) 1117, (39) 1284—ab, (116, 124) 1377, (15) 1729—ab, (65) 1903, (128, 129) 1906—ab, (66) 2003, (20) 2089, (95) 2195—ab, (19) 2236—ab
  extrauterine and early abortion, differentiatial diagnosis, (32) 2186
  extrauterine, and hypoplasia of tubes, (138) 2198
  extrauterine, at term, (54) 532
  extrauterine, at term, with healthy child, (145) 268, (29) 712—ab
  extrauterine, beyond full term, (33) 1462
  extrauterine, can operation be done for, during shock? (73) 2009—ab
  extrauterine, concealed hemorrhage in pregnancy contrasted with, (30) 1107
  extrauterine, dealt with by abdominal section without death, 35 cases of, (5) 1038
  extrauterine, *diagnosis of*, (79) 1552
  extrauterine, early, anatomy and histology of, (39) 1284—ab
  extrauterine, early diagnosis of, (59) 168—ab, (79) 351—ab, (55) 532, (63) 792
  extrauterine, immediate vs. delayed operation for, (38) 707—ab
Pregnancy, extrauterine, intra-abdominal hemorrhage due to deferred operation for, (47) 707—ab
  extrauterine, intra-abdominal hemorrhage due to, time to operate in, (35) 623—ab, (46) 707—ab, (32, 33, 34, 37) 623 (31) 2002—ab
  extrauterine, on goldfields, (12) 1189
  extrauterine, procedure suitable for cases of in which fetus in living, (57) 1375
  extrauterine, terminated, treatment of, (92) 169—ab
  extrauterine, treatment of early cases of, (97) 949
  extrauterine, when shall we operate? *1767
  eye complications of, *204, (101) 877—ab
  heart disease and tuberculosis in relation to, (79)—2091
  hemorrhages of, (134) 1282
  histologic pecularities of vagina and bladder during, (113) 1117
  inflammation in and around cervix uteri in, (95) 1195—ab
  intrauterine and coincident tubal, (15) 1729—ab
  intrauterine hemorrhage during, and from premature separation of normally implanted placenta, (50) 1551
  labor and puerperium, fibroids complicating, (74) 258
  labor and puerperium, kidney disease during, (101) 1281—ab
  laparotomies during, (58) 1375
  multiple fibromas of skin in, (99) 1826
  necrosis of myomata during, (78) 1470
  nephritis of, suprarenal capsules in, (51) 81—ab
  normal, dropsy, and kidney of pregnancy, and pathogenesis of eclampsia, (52) 1647—ab
  ovarian, (26) 167
  ovarian, terminating in formation of lithopedion, (64) 1113
  ovarian tumors complicating, (90) 169—ab
  ovariotomy during, (38) 1646—ab, (35) 1817—ab
  parturition and puerperium after ventrofixation, (3) 1553—ab
  plea for more painstaking supervision of, (109) 1905—ab
  protracted decalcification of, (52) 81—ab
  psychoses of, (101) 1382—ab
  pyelitis in, (51) 532, (185) 951, (26) 1190, (126) 1652
  pyonephrosis and renal calculi in, induced labor, nephrectomy, (18) 1639
  renal cortex in, infarction of, (34) 1816—ab
  ruptured, hemorrhage following section of uterine and ovarian vessels in dogs and its possible bearing on, (31) 1816—ab
  simultaneous full term *in each half of double uterus*, (50) 2002
  symphyseotomy during, (49) 1646—ab
  tetany, *experimental* and clinical study of, (113) 877—ab
  toxemia of, (182) 171, (40) 1284—ab (62) 1552, (58) 1818—ab, (30) 2006, (61) 2091
  toxemia of, functions and relations *of syncytium to*, (50) 947—ab
  toxemic pernicious vomiting of, with total nitrogen and ammonia estimations, (32) 1107
  toxemia of, relative severity of different forms of, and its bearing on treatment, (36) 1902
  triplet, with special regard to site of placenta, (91) 956
  tubal and coincident intrauterine, (15) 1729
  tubal, early, anatomy and histology of, (39) 1284—ab
  tubal, etiology, diagnosis and treatment of, (95) 2195—ab
  tubal, *intra-abdominal hemorrhage* due to, immediate vs. *deferred* operation for, (32, 33, 34 and 37) [illegible] (31) 2002—ab
  tubal, *ruptured when shall we operate?* *1767
  tubal, treatment of, after rupture *or abortion*, (19) 2236—ab
  Vincent's angina during, (36) 1816
  vomiting, during, (6) 1638
  vomiting of, etiology and treatment, (71) 714—ab
  vomiting of, successfully treated by suggestion, (141) 86—ab
  vomiting of, uncontrollable, (51) 1380—ab
Prescribing, pharmacopeia as standard for, *2013

- Prescribing, simplicity in, *962
  - versus dispensing (78, 79) 1792
- Prescription, mechanical, (92) 1792
  - original vs. original bottle (66) 173
- Presentation facial, high transverse, high forceps for, (125) 267
- Presentation transverse, management of (40) 537—ab
  - transverse prophylaxis of (38) 447
- Pressure in pleuritic effusions, (64) 174—ab
  - intraspinal monometric estimation of, 159
  - method of regulating in Bier treatment (10) 255—ab
  - method positive, of artificial respiration *809
  - positive artificial intrapulmonary, *809
  - procedure Sauerbruch negative in the prevention of pneumothorax, *808
- Prevention rather than cure (4) 1900
- Priest and physician relations of, (8) 1991—ab
- Primates hard palate and maxilla in, (20) 1111
- Prison mentally defective in (16) 354—ab
- Probing new laryngeal (82) 625
- Procedentia Uteri See Uterus
- Proctitis sphincteric (68) 575—ab
- Profession and public (75) 351
  - and public, cooperation of the, (112) 442
  - medical then, now and hereafter, (77) 751
  - what it may do in matters of state, (118) 170—ab
- Professions why do young men crowd into them? (22) 167
- Profeta's law and Colles' law in light of modern serum research, (118) 1997
- Prognosis and bacteriology (96) 83
- Progress peace work opportunity for (43) 946
- Prolapse and hemorrhoids inflatable pessaries for, (96) 265
  - genital uterus in plastic operations for (73) 1039
- Prophylaxis vs. treatment (4) 1900
- Proprietaries disadvantages in prescribing (57) 1465
  - prescribing of especially mixtures *989
  - vs. U. S. Pharmacopeia and National Formulary preparations, (40) 1185
- Proprietary problem final disposition of, *657
  - right *140
- Prostate and bladder, cysts near, (83) 1471—ab
  - and testicle gout of (94) 265
  - as factor in nervous disease (21) 2014—ab
  - hypertrophied, (64) 624 (112) 793—ab
  - hypertrophied comparative value of measures for relief of (45) 1033
  - hypertrophied retention catheterization in (189) 87—ab
  - hypertrophied treatment of (110) 109 (58) 797
  - infection of, (137) 78
  - inflamed or seminal vesicle determination of gonorrheal infection in (47) 1108—ab
  - or bladder, advanced cancer of value of bilateral ureterostomy in (10) 443—ab
  - physiologic importance of the (51) 2096
  - prognosis of obstruction of after operation (118) 949—ab
  - stretching (5) 713—ab
  - surgery of (46) 1034 (2) 1815—ab
  - surgical (127) 793
- Prostatectomist yeoman, confessions of (11) 706—ab
- Prostatectomy and bladder stone (70) 98
  - at two sittings under local anesthesia (115) 84—ab
  - by combined routes (15) 1554
  - calculi formation after, (94) 2092
  - device for prolonged irrigation and drainage of bladder after, (80) 948—ab
  - improved technic for (79) 637—ab
  - perineal preceded by suprapubic cystostomy in septic case, (129) 178—ab
  - suprapubic, (22) 261
  - suprapubic new and rapid method of perineal drainage in *857
- Prostatic can aged be prevented? (109) 1110
- Prostatic disease in diabetic, (66) 258—ab
  - renal concentration in treatment of, (19) 706—ab
- Prostatic obstruction, permanent suprapubic drainage for relief of, (112) 1282—ab
- Prostatitis chronic, (96) 1572
  - chronic pathology and treatment of (60) 2005
  - chronic, treatment of, (131) 531
  - simple chronic and tuberculous symptomatology, diagnosis and treatment of (19) 1190
  - tuberculous symptomology, diagnosis and treatment of, (80) 948
- Prostitution, (16) 706—ab, (57) 1903—ab
- Protargol injection in lachrymal sac, blindness following, (101) 112
- Protection against substitution *70
- Proteid diet, exclusive, value of, in digestive disorders (20) 2006
  - digestion and alkaloids, (115) 352
  - metabolism, (75) 70
- Protein catabolism, influence of internal hemorrhage on, (20) 1033
- Proteins, bacterial, anaphylaxis induced by, *836
- Protoplasm effect of alcohol on, (176) 171, (69) 1466
- Protozoal diseases in man, (56) 1039
- Provident system and general hospitals, (11) 261
- Psammoma like growths in wall of meningocele, (102) 1913
- Pseudarthrosis, congenital, of leg, treatment, (116) 81
  - following gunshot wounds, treatment, (60) 355
- Pseudocholesteatoma, exostosis and artificial drum membrane in adults, (67) 792
- Pseudofractures of sesamoid bones of first metatarsophalangeal joint, (67) 798
- Pseudoleukemia, (128) 1111
  - a type of sarcoma (136) 357—ab
- Pseudomyxoma, peritoneal, (93) 1904
- Pseudophosphaturia as sign of debility, (117) 1651—ab
- Pseudotabes and tabes, diagnosis of, (115) 949
- Psoas magnus, psoas parvus and iliacus tenotomy of in spastic spinal paralysis in adult, (103) 1526—ab
- Psoriasis (50) 2090
- Psychiaters and psychiatry of Augustan era (74) 1732
- Psychiatric diagnosis lumbar puncture in, (102) 1116
- Psychiatry and neurology, French clinics in, (51) 1817
  - and psychiaters of Augustan era, (74) 1732
  - current, trend of, (109) 1187—ab
  - lumbar puncture for differentiation in (63) 954
  - modern, progress in, (64) 868, (140) 1232
  - principles of, (139) 178
  - *prognosis* in, *108
- Psychic disturbances in ovarian syndrome, (56) 2007—ab
  - factor and surgical aspects of exophthalmic goiter, (100) 260—ab
  - state pain as chief or sole expression of, (125) 442
  - treatment, (91) 1110
  - treatment of inebriates, (45) 349
  - treatment of nervous disorders, (105) 442
- Psychical end results following major surgical operations, (99) 259—ab
- Psychologic medicine, school life from point of view of, (21) 1377
  - tests made on tuberculous patients, (3) 1371—ab
- Psychology of neurasthenia and hysteria (24) 1377—ab
  - of success, (1) 710
- Psychoses, alcoholic (1) 1638—ab
  - and internal secretions, (51) 873
  - functional, hypnoidization in, (42) 2187
  - in children, (105) 84—ab
  - of pregnancy, (101) 1382—ab
  - recoverable, prognosis in, (54) 624—ab
  - tardy recovery from, (162) 1476—ab
- Psychosis Korsakoff's, (76) 258, (146) 442
- Psychotherapy *37, (109) 109—ab, (86) 256 (76) 533 *368, (16) 531, (135) 534 (91, 92) 949, (10) 1183 (60) 1025 (141) 1282, (81) 1376—ab (78) 2004
  - bottled studies in, *52
  - desirability of instruction in, in medical schools and its introduction at Tufts, (2) 1549
- Ptoses visceral, and movable kidney, corset for *1568
- Ptosis, simplification of De Grandmont's operation for, (84) 2004
  - treatment of (79) 625
- Ptyalin activity of effect of potassium iodid on, (62) 350—ab
- Pubic arch, impaction of, in bladder fractures of pelvis and femur and trauma of kidney, (87) 948—ab
  - bone and symphysis, resection of, for giant tumors of pelvis, (65) 2193
- Pubiotomy, (90) 83—ab, (65) 578
  - and induction of premature delivery in the home, (76) 264—ab
  - indications and prognosis for, (18) 275—ab
  - indications for, (126) 267, (134) 2195
  - justifiability of, (25) 1033—ab
  - technic and results of, (186) 87
  - vs. symphyseotomy, (46) 1755
- Public affairs and physicians, (87) 710—ab
  - and medical profession, (75) 351, (112) 442, (61) 709—ab, (146) 870, (68) 1185, (4) 1461—ab
  - assembly rooms, halls and churches, sanitary construction and furnishing of, (151) 1188
  - health acts amendment in Great Britain lodging houses under, (15) 1111
  - health and home, address on venereal disease and sex to women of state of Texas in interest of, (82) 1281
  - health and pathology, coordination in (10) 1111
  - health and poor law medical services, (29) 1112
  - health, education and legislation, (90) 710—ab
  - health laws in Illinois, (84) 1036—ab
  - health national department of and antituberculosis problem, (20) 1462—ab
  - health work and medical profession, (131) 170
  - medical education of (70) 1280—ab
  - surgical rights of, (1) 864—ab (79) 1375—ab
  - what it should know concerning venereal diseases, (166) 171
- Puerpera, transmission of infection from, to child (95) 632—ab
- Puerperal affections importance for prognosis of formed elements of blood in, (75) 82—ab
  - infection, (62) 709 (92) 2004
  - infection blood findings in, (48) 1113 (111) 1473—ab
  - infection, collargol in, (48) 81
  - infection importance of hemolytic streptococci in (59) 1113—ab
  - infection, operative treatment of, (21) 2093—ab, (25) 2094—ab
  - infection prevention of, (112) 1473—ab (73) 1465
  - infection, prognosis and treatment, (86) 2010—ab
  - infection, serum treatment of, (149) 86
  - infection, treatment of, (73) 1465
  - infection, treatment of, by fixation abscesses, (17) 2235—ab
  - infection, treatment of, with continuous current of oxygen, (42) 1821—ab
  - inflammation of cervix, acute secondary rigidity of external os from, (37) 354—ab
  - pyemia cured by ligation of pelvic veins, (124) 267—ab
  - sepsis treatment of (22) 2094—ab
- Puerperium and pregnancy, appendicitis in, (62) 630
  - and pregnancy, prognostic value of nuclear count in, (49) 867—ab
  - and pregnancy sudden death during (155) 1037
  - excretion of creatinin during, (38) 263—ab
  - fever in (104) 1037—ab, (32) 1038
  - first two weeks of, quantity and quality of breast milk during, *1209
  - labor and pregnancy, fibroids complicating, (74) 258
  - labor and pregnancy, kidney disease during, (101) 1251—ab
  - parturition and pregnancy after ventrofixation, (3) 1553—ab
  - normal management of, (159) 78
  - ovarian tumors complicating, (90) 109—ab
  - pyelonephritis complicating, (55) 708
  - suppurative meningitis in, (56) 446
  - treatment of, (61) 791
- Pulmonary area, murmurs in, (98) 541
- Pulse, dicrotic direction of wave, (144) 1475
  - dicrotic, with aortic insufficiency, (148) 1475
  - in peritonitis and ileus (130) 267
  - irregular, (88) 1559
  - irregular, electrocardiogram of, (89) 1559
- Pulse, jugular, (30) 499—ab
  - normal venous, (9) 2093
  - origin and significance of protosystolic wave of, in jugular veins, (10) 355
  - permanent slow, pathogenesis of, (15) 1616—ab
  - pressure as index of systolic output (154) 870
  - radial disappearance of the during pressure on the eyeball (113) 2011
  - rate, slow, in acute parotitis (125) 450—ab
  - tracings turgosphygmographic, clinical importance of, (56) 174
  - venous characteristics of, in hypertrophy of left heart with kidney heart and aortic insufficiency, (51) 174—ab
- Pump, faucet vacuum, in medicine, (74) 1470
- Puncture, exploratory, of drum membrane in certain diseases of middle ear, (125) 1820
  - of brain, (5) 1890—ab
- Punishment corporal, in schools, from neurologic standpoint, (89) 1115
- Pupil in extraocular disease (50) 1517
  - poetic, prosaic, (120) 1644
  - suggestions of in general disease, (38) 1902—ab
- Pupils in general paralysis diagnostic importance of inequality of, (39) 953
  - subnormal and mentally deficient, physical defects of school children causing, (76) 625—ab
- Purgation and use of cathartics (40) 1185
- Purgative, observation action of and fermentative power of polypus secretion in case of extensive polyposis of colon and rectum, (97) 1041
- Purin metabolism, physiology of (24) 1038
- Purpura gangrenous in eight months' infant (70) 173
  - hemorrhagic following contusion of kidney region, (59) 1112
  - hemorrhagica malaria as cause of, (61) 2003—ab
  - Henoch's and angioneurotic edema, (28) 261
  - Henoch's, and intussusception (44) 1284
- Pus diagnosis of, in pleural cavity, (115) 696
  - increase of specific gravity of in acute suppurative otitis media as indication for opening mastoid and errors in Hammerschlag's method (139) 1906
  - tuberculous differentiation of, with Millon's reagent (99) 1650
  - tubes treatment of (23) 1107—ab
- Putrefaction intestinal and toxicity of urine and stools in infants fed on foods rich in albumin (152) 360—ab
- Pyelitis and menstruation (81) 875—ab
  - in pregnancy (185) 951, (26) 1190 (120) 1652
  - pathology and treatment of, (80) 1779—ab
- Pyelonephritis clinical and bacteriologic study of, (114) 869
  - complicating puerperium (55) 708
  - suppurative *1073
- Pyemia and general sepsis, treatment of, (93) 799
  - and otitic sinus thrombosis, (92) 1552
  - puerperal, cured by ligation of pelvic veins, (124) 267—ab
- Pylorus and fundus of human stomach, behavior of pepsin and lab in and relations between action of pepsin and concentration of acid, (99) 1041
  - cancer, early about, (110) 949
  - cancer of, gastrectomy, gastrojejunostomy, no recurrence (110) 949
  - cicatricial obstruction of, fibrolysin in, (3) 1111
  - normal palpation of, (83) 356—ab
  - permeability of, new method of estimating (10) 73—ab
  - spasm of and congenital hypertrophic stenosis, in infancy, (48) 708—ab
  - stenosis and insufficiency of, (75) 175
  - stenosis of benign, simulating gall stone affections, (65) 1114
  - stenosis of, congenital hypertrophic (59) 81—ab
  - stenosis of, congenital hypertrophic treated medically, (8) 1038
  - stenosis of, congenital in adult (10) 535—ab

Pylorus, stenosis of, congenital, cause of *chronic stomach disease in adult*, (11) 535—ab
  stenosis of, gastric crises simulating (67) 264
  stenosis of, hypertrophic, in infants, (137) 353—ab, (44) 445, (59) 532—ab, (2) 705, (129) 1734
  stenosis of, in infancy, (2) 705, (59) 532—ab, (49) 1279, (37) 1284—ab (73) 2091
  stenosis of, in infancy, diagnosis and internal treatment, (130) 2197—ab
  stenosis of, vs. Einhorn's achylia gastrica, (7) 1729
Pyocyanase in acute otitis media, (62) 1647
  in diphtheria, (122) 1042—ab, (91) 1288—ab, (81) 1649
  in diphtheria, scarlet fever and tonsillitis, (91) 1288—ab
  in infectious diseases, (97) 2194
  in ozena, (105) 1116
  are lipoids bactericidal elements of? (121)' 1290
  lipoids in, (117) 266
Pyogenic processes, bacterial vaccines and, (82) 792—ab
Pyonephrosis and cerebral abscess, *756
  and renal calculi in pregnant woman, induced labor, nephrectomy, recovery, (18) 1639
  tuberculous, without outward manifestations, (72) 1114—ab
  vaginoureterostomy after nephrectomy for, due to sigmate constriction of ureter, (16) 1278
Pyopericardium in children under twelve, (11) 951—ab
Pyorrhea-alveolaris, acute, treated by *specific vaccine*, (15) 1038
  from tropical standpoint, (34) 2191
Pyrexia, anomalous, in children, (1) 1282—ab
Pyrimidins, researches on, (43) 1731
Pyuria, (68) 258
  and hemorrhages, cystic disease of kidneys with, (10) 2005
  renal, without apparent kidney lesion, (13) 438

Q

Quack, advertising, and newspaper, (59) 1818
  remedies *made in Thuringia*, (108) 358
Quackery and quacks, practical methods of dealing with, (69) 1109—ab
Quacks, (124) 1820
  and quackery, practical methods of dealing with, (69) 1109—ab
Quadruplets, birth of, *1869
Quarantine against yellow fever, (166) 1189
  of smallpox, *2151
Quebec, history of medicine in province of, from 1535 to 1838, (11) 530
Quebrachin, effects of on lungs, *1593
Queen's Maternity Home, Adelaide, first six years' work at, (27) 2006
Quinin administration by inunctions, (138) 870
  and urea hydrochlorid, in diagnosis and treatment of malaria, (25) 1530—ab
  anesthesia, painless tonsillectomy and adenectomy with, *496
  aspiration and injection of, treatment of abscess of liver by, (16) 1820
  in syphilis, *(111) 84—ab*
  intolerance, *treatment*, (129) 1562—ab
  intoxication from, (133) 267—ab
  large doses of, in dermatitis exfoliativa, (119) 1188—ab
  isotonic solution of, for intravenous injections, (74) 1040—ab
  prolonged use of small doses of, effects of, (120) 1914—ab
  pyretic phase in action of, (123) 178—ab
Quinsy, hemorrhage following, (151) 353

R

Rabbit, cornea of, inoculability of bacillus of soft chancre in, (113) 1914
  ear of, experimental hyperemia in stereptococcus infection in, (100) 1913—ab
  spontaneous arterial degeneration *in*, *1056
Rabbits and guinea-pigs, bactericidal action of extract of leucocytes of, (61) 1039
Rabbits, intravenous injections of adrenalin in, liver affections after, (87) 447
  involution of thymus in, (119) 800
  serum diagnosis of syphilis with antigens from, (120) 878—ab
Rabies, diagnosis of, (136) 1188
  preparation of serum, (3) 78—ab
  rabicidal *properties of human* serum after antirabic treatment, (3) 78—ab
  smear method as means of rapid *diagnosis of*, *288
Race problem—negro consumptives, (121) 793
  suicide and criminal abortion, moral aspects of, (88) 1819—ab
  suicide: Mothers' side of question, (21) 256
  suicide: quantity or quality, (20) 256
  and osteomalacia, and influence of suprarenals on bony skeleton, (7) 1377—ab
  and scoliosis, (65) 798—ab
  and suprarenal capsules, (134) 85—ab
  congenital and *early* acquired, *(90)* 632—ab
  dental erosions from, with lamellar cataract, *1130
  digestive disturbances in, (51) 2192—ab
  early, clinical research on, (94) 1288—ab
  etiology of, (12) 443—ab
  in ancient times, (131) 1474—ab
  and Mongolian spots in colored *children of Jamaica*, (42) 867—ab
Rachitis and osteomalacia, (94) 2189-ab
  tardy, (102) 511—ab
Radiation, homogeneous, in therapeutics, (60) *954*
Radioactivity and radium, (72) 1824
  of mineral waters, (131) 267, (97) 632
Radiography in colors, is it possible? (94) 1377—ab
  plastic, (63) 624—ab
  rapid, (14) 1822
Radiotherapy of cancer, biologic principles of, (84) 2010—ab
  of disfiguring affections, (71) 1193, —ab
Radium and radioactivity, (72) 1824
  bromid treatment of epithelioma, *894
  emanations, therapeutics of, (102) 632, (81) 1470
  in carcinoma of nasopharynx and sphenoid region, (89) 441
  therapeutic action of, (21) 1283—ab
  treatment of angioma, (37) 797—ab
  treatment of inoperable tumors, (74) 798
Radius, arrest of growth at lower end of, after separation of its *epiphysis*, (43) 791
  bicipital tuberosity of, avulsion of, (49) 1641—ab
  fracture of head and neck of, *(99) 77*—ab
  fracture of, in children, (126) 878
  fracture of neck of, (103) 1644
  malformation of, (80) 1287
  musculospiral paralysis due to dislocations of head of, (47) 1034—ab
  nailing of lower epiphysis of, *1329
Railroad companies, legal relations of railroad surgeons to, (89) 793
  practice, interesting cases in, (57) 1185
  sanitation, (51) 2188—ab
  surgery, conservative, (62) 1185
Railway spine, (84) 1904
Râle sounds, *artificially* induced, for teaching purposes, (71) 1380-ab
Râles and friction sounds, physical and clinical study of, (134) 634
Ranula and other diseases of salivary glandular system, *992
Rashes, exanthematous and erythe*matous, diagnosis of*, (2) 1638
Rat bite disease, (92) 358, (60) 1552—ab
  destruction in Kamptee, (40) 1737
  destruction operations *in Punjab*, (43) 1112—ab
  extermination, experiments on, (26) 796
  leprosy, *1153
  poison, Liverpool virus, epidemic of enteritis caused by, (15) 2190
  white, reactive cell proliferation in, and its relation to genesis of transplantable tumors, (27) 2089
Rationalization in everyday life, (43) 2187—ab
Rats, arrest of growth in, by parathyroidectomy, (88) 632
Raynaud's-disease and exophthalmic goiter, (128) 178—ab
  erythromelalgia and allied conditions in relation to vascular diseases of extremities, (39) 1902—ab
  two cases, (19) 1107
Rays, chemical, promoters of life *and energy*, mode of action and therapeutic uses, (13) 1278
Reaction, agglutination value of, and of bacteriologic methods in diagnosis of glanders, (52) 2003—ab
  convergent, in reflex immobility of pupils, (56) 630—ab
  Günsberg, modification of, (99) 956
  pancreatic, illustration of crystals of, (5) 2000
  precipitin for serum diagnosis of syphilis, (113) 266
  precipitin, in syphilis and general paralysis, (72) 356
  tuberculin, complement-binding tu*berculosis antibodies* and their connection with, (67) 630
Reactions, abnormal, to horse serum, in serotherapy of meningitis, (26) 2191—ab
  agglutination, (47) 1379
  neuromuscular, for industrial accident insurance, importance of graphic registration of, (70) 1039
  precipitate, with lecithin, sodium glycocholate, and sodium taurocholate, *and sodium taurocholate for diagnosis of syphilis*, (2) 1729
Reagent, Millon's differentiation of pus with, (99) 1650, (120) 2012
Reciprocity, state, in dental practice licensing, *563
Rectal dont's, (48) 257
Rectum: See also Proctitis
  and anus, primary melanotic sarcoma of, (22) 790—ab
  and anus, new bloodless method of amputating, *991
  and colon, fermentative power of polypus secretion in extensive polyposis of; action of purgative, (97) 1041
  and sigmoid, cancer of, surgical treatment of, (27) 167—ab
  and sigmoid, new position for diagnosis and treatment of disseases of, *1131
  and sigmoid, prolapse of, following hysterectomy, *1125
  apparatus for administering anesthesia by, (134) 793
  cancer of, (47) 440, (77) 948, (5) 1031, (14) 1106, (9) 1183, (4) 1276—ab
  cancer of, excision, (24) 1107—ab
  cancer of, high, in men, technic *for removal* of, (91) 1471
  cancer of, improved technic for radical cure of, (53) 1279
  cancer of, pregnancy and labor complicated by, (42) 1284
  cancer of, selection of method of operating in, (16) 1554
  cancer of, with anuria, (58) 2008—ab
  carcinoma of, comparative results of operative procedures, (94) 1110
  carcinoma of, excision of, by combined method, (39) 791—ab
  carcinoma of, value of "combined method" in, (155) 360—ab
  careful examination in diseases of, with proper instruments, (93) 1036—ab
  communication of, with prostatic urethra in case of imperforate anus, (89) 1376
  continuous irrigation of, (149) 870
  drainage through, of pelvic abscess, (139) 353—ab, (15) 711—ab
  examination and diagnosis of diseases of, (118) 1466
  excision of, for cicatricial stricture by combined method with preservation of sphincter, (119) 1282—ab
  gangrene of, apparently spontaneous. (57) 1380
  imperfect absorption of antitoxin from, (74) 955
  implantation of ureters into, for extroversion of bladder in woman, by modified Peter's operation, (9) 1820
  injection of silver salts in, in sepsis, (79) 875
  myoma of, (79) 82
  neuralgia of, (60) 947
  non-melanotic sarcoma of, (82) 176—ab
  operation by Rehn-Delorme technic for prolapse of, (109) 2099
  operation for absence of, (3) 1377
  rupture of, (77) 264—ab
  speculum for, (41) 1551
  traumatic prolapse of, (104) 358
Rectus, external, isolated paralysis of, with *otitis media*, (74) 539
Red-cross, American National, organization of, for war and its *relation to medical departments* of Army and Navy, (106) 1187
  in antituberculosis war, (11) 2088-ab
Red light and measles, (54) 873—ab
Reflex, *Bechterew's flexion*, of toe, (88) 1288
Reflexes in diagnosis, value of, (124) 1037—ab, (130) 1037
  in insane, (60) 624—ab
  visceral, diagnosis and treatment based on, (34) 256
Refraction, (116) 352
  errors of, and balance of eyes bearing on general health, (33) 349
  in Indians fresh from plains, *308
  subjective *branch of, improved in*strument to shorten, (102) 442
Refractory period and period of varying irritability in heart muscles, *(70) 350—ab*
Refrigerator, inexpensive home-made, *317
Regeneration of blood and importance of treatment of blood affections, (84) 955
Regimen, diabetic, (27) 1038
Regurgitation a symptom of gallstones, or of cholecystitis, (22) 1640
Reinhardt case concluded, *1144
Relapsing-fever, (70) 2008
  blood in, *(125)* 359
  pathologic anatomy of, (148) 86
Relaxation for strain of sacroiliac *joint*, *(125) 1734*—ab
Remedial measures other than drugs in cardiac disease, (85) 1376
Remedies, what, shall we use? (106) 1110
Reminiscences, (143) 870
Research defense society, work of, (5) 1906
Resection, plastic, to restore function to old amputation stump, (52) 1909—ab
Resonance, tympanitic and non-tympanitic percussion, graphic registration of, (96) 1041
Resorcin, external *application of, poisoning from*, (102) 358—ab
Respiration, artificial, (71) 356, *801, (20) 871, (19) 952
  artificial, apparatus for, when thorax has been opened, *(140) 2198-ab*
  artificial, injury to new-born infant by attempted, (48) 2002—ab
  artificial, positive pressure method of, *803, *805, *808
  in children, (29) 173
  in health and disease, mechanism of, (23) 1111
  in hemiplegia, (21) 795—ab
Respiratory obstruction, upper, effects of, (75) 258
  organs, (139) 1111
  organs, *ciliated epithelium of*, physiology and pathology of, (62) 2096
  organs, colon bacilli infection of, (106) 877
  organs, physiology of, (96) 1560—ab
  organs, treatment of catarrhal diseases of, (23) 73
Respirometer, improvements of, and its disinfection, (138) 1906
Responsibilities and duties of state society, (146) 1037
  of the hour, *961
Rest and exercise in tuberculosis, (1) 2233—ab
  as important factor in nonoperative treatment of gynecology, (118) 1282
  curative *effect of, in children* with persistent loss of appetite, *1917
  cure, essence of, (105) 626
  in bed, therapeutic *value of*, (111) 626
Resuscitation in apparent death by oxygen and intubation, (132) 2198—ab
  minor points to improve Schultze's swinging in, (127) 1117—ab
  of heart by subdiaphragmatic massage, (110) 1187—ab
Retina: See also Eye
  cyanosis of, (124) 1282
  glioma of, enucleation and recovery, *(140)* 1037
  pigmentation of, from vitreous chamber, (128) 1282
  recovery after bilateral detachment of, (101) 1196
  tear in, (125) 1188—ab
Retinitis, leukemic, (157) 1734
  pigmentosa, typical, (128) 1282
Revaccinations, immunization by, (47) 873

Rheumatism, acute and chronic, (21) 707
  acute articular, (75) 441, (92) 531—ab
  acute articular, benefits from intravenous injection of mercury bichlorid in, (150) 1044
  acute, bacteriology of, (40) 2002
  acute, bacteriology and pathology of, (128) 1553
  and bee stings, (2) 1644—ab
  and chorea, (148) 442
  articular, in infant, (53) 76
  as after affection of chorea, (82) 715—ab
  errors in diagnosis of, (124) 78
  gout and diabetes, upper air tract in diagnostic value of symptoms of, (61) 1280
  in children, (170) 171, (55) 440, (52) 708—ab, (41) 1185, (88) 1376
  in children and fatal suppurative pericarditis, (70) 262
  nodular, in children, (134) 178—ab
  of brain, (131) 717—ab
  serous inflammations due to, (2) 2235—ab
  thyroid, (44) 712—ab
  tuberculous articular, (101) 141—ab
Rheumatoid disease, physiotherapeutics in, (100) 77
Rhinedema with polyp formation, (118) 1037
Rhinitis, atrophic and ozena, (146, 149) 353
  atropic, chronic, and diphtheria, (104) 1116
  atrophic, nature and treatment of, (29) 1820
  atrophic, treatment of, (147, 148) 353
  atrophic, vaccine treatment of, (19) 790
Rhinitis, hyperesthetic, pathogenesis and treatment, (78) 1280
  hyperesthetic, treatment of, (99) 1552
  hyperesthetic, treatment of, by injections of alcohol, (54) 791
  intumescent, treated by submucous method, (145) 950
Rhinology, importance of x rays in, (78) 1739
  laryngology and otology, border line of, *361
Rhinoscleroma, (137) 442
Rhizomelique, spondylose, nervous *system in*, *463
Rhythm, to and fro, of anemic souffle at base *of heart*, (28) 796
Rib, first, chondrotomy of, in incipient apical tuberculosis, (106) 449—ab
  implantation of piece of, in pedunculated flap to fill defect after resection of jaw, (89) 1195
Ribs, cervical, (115) 541
  cervical, surgical importance of, to general practitioner, *1126
  fracture of, injury of lungs in, treatment of complications from, (60) 1556
  fracture of, rupture of lung, and pneumohemothorax, (34) 1378
  painful displacement of, (22) 1554—ab
  resected specimens and photographs of, (52) 76
Rice, arsin in, and etiology of beriberi (9) 2234
Ricin method, Jakoby Solms, simplification of, for pepsin determination (2) 944—ab, (88) 1115—ab
Ricketts See Rachitis
Right handedness, (27) 1111
Rigor mortis instantaneous, (77) 76
Ring bodies in blood in anemia, (72) 174
Ringworm, epidemic of, at St Gallen (73) 1824—ab
  in children (80) 2194
Rocky Mountain spotted fever, (7) 2085
Rodents and men, fleas on, on Pacific coast, *495
Roentgen ray, anatomic action of, on testicles, (95) 1288
  anatomic study of duodenum, (73) 376
  and bone lesions, (80) 77
  and clinical study of acromegaly, (75) 1648
  and fractures (1) 1105—ab
  and high frequency treatment of leprosy, (42) 1112—ab
  and operative treatment, congenital sarcoma of femur cured by, (70) 1286—ab
  baths and dermametropathism, (149) 83
  behavior of animals in response to bacterial infection after exposure to (105) 449—ab
  case, simplified office, (3) 1193
Roentgen ray, changes in outlines of heart, diaphragm and stomach during phases of respiration as illustrated by, (122) 442
  dermatitis, prevention of, (24) 1283
  dermatitis prevention and treatment, (166) 950
  diagnosis and treatment of bladder stones (157) 560
  diagnosis and treatment of diseases of upper air passages, (92) 2010
  diagnosis and treatment of tuberculosis of pulmonary glands in children with spondylitis, (69) 2097
  diagnosis of disabled foot, (125) 950
  diagnosis of diseases of stomach and intestines (7) 710
  diagnosis of incipient pulmonary tuberculosis, (83) 715—ab, (100) 949
  diagnosis of obscure fractures, (26) 479, (21) 622, (24) 790—ab, (19) 1462, (21) 1640
  diagnosis of pulmonary tuberculosis, (108) 949—ab, (158) 1044, (14) 1283—ab, (64) 1904—ab
  diagnosis of renal and ureteral calculi, (79) 77, (67) 169—ab
  diagnosis of renal and ureteral calculi, fallacies in, (19) 1283
  diagnosis of tuberculosis of bronchial glands and apices, (46) 1192—ab
  dosage, (113) 84, (91) 1381, (92) 1382—ab, (92) 1740
  equipment, practical portable, for army field service, (86) 169
  examination of esophagus, (18) 1901—ab, (46) 2090
  examination of spine, (68) 1648
  examination of tracheal glands, (119) 2012
  failure to locate pierce of iron scale, siderosis of right eye caused by, (100) 1466
  flashes or intermittent x rays, (2) 1900
  hypertrichosis and port wine marks involving both sides of face, removed by, (38) 873, (112) 1111, (21) 1820
  in cutaneous tuberculosis, (7) 261 ab
  in dermatology, (45) 256, (84) 948, (102) 1472
  in elephantiasis, (145) 1820
  in epithelioma, *1761
  in exophthalmic goiter, (139) 1474—ab, (3) 1638—ab, (28) 1907
  in gastric diagnosis, (82) 77
  in leukemia, (81) 77, (95) 1036
  in neurology, *723
  in rhinology, (78) 1739
  inspection of thorax in dyspneic patients, (65) 874—ab
  irradiations of lymphatic glands, analogy between spontaneous recoveries from cancer and specific immunity induced by, (9) 1735
  leprosy apparently cured with, (12) 1729
  measurement and dosage of, by absolute units, (83) 799
  medicolegal status of, (111) 1037—ab
  method of outlining heart with, (73) 1380—ab
  motor functions of stomach after gastroenterostomy as demonstrated by, (4) 710—ab
  myelogenous leukemia and its treatment with, (54) 708—ab
  palliative treatment of malignant diseases by, (56) 947—ab
  photography for fractures, value of, (54) 1465
  photography, instantaneous, (85) 1825—ab
  photography, rapid surgical, (93) 1912
  removal of superflous hair by, (38) 873, (112) 1111, (21) 1820
  testimony and bearing on proposal to regulate medical expert testimony, medicolegal case, involving, (53) 1034
  tests of stomach motor functioning, (123) 1117
  treatment, (73) 714, (51) 1374
  treatment and general practitioner, (97) 540—ab, (83) 1186—ab
  treatment of deep seated processes, technic for, (78) 264—ab
  treatment of nail affections, (112) 84
  treatment of oily seborrhea, (66) 714
  treatment of sarcoma, (55) 947
  treatment of skin disease, (45) 256, (84) 948, (102) 1472
  tumors, (78) 1257—ab
Roentgen ray, uses, dangers and abuses, *1763
  value of, in chest diagnosis (5) 2185
  value of, to surgeon, its use in diagnosis and treatment, (130) 1820
Rogers, Joseph Goodwin, in memoriam, (126) 78
Room disinfection, (18) 138—ab
Rousseau, Jean Jacques, et Desessartz, (98) 173
Royal College of Surgeons, of England, (7) 2005
Rubber tubing, vessel anastomosis by, (18) 1550—ab
Rubella, acute infectious eruptive, outbreak of, (8) 1906
  epidemic of, (147) 1282
  rubeola and scarlet fever, complications of, (120) 1819
Rumination, etiology, initial symptoms and treatment of, (52) 264
Rural districts, official disinfection in, (47) 355

S

Sac, lachrymal, unilateral congenital fistula of, (34) 946
Saccharometer, new, for use with Fehling's solution, *196
Sacroiliac disease, (36) 1108—ab
  strain (133) 1111
  synchondrosis, arthrodesis of, (3) 789
Sacrosciatic foramen, hernia in, (62) 556—ab
Sacrum congenital tumor of, (51) 630
Salicylates in diagnosis and treatment, (16) 2093
Saline enemas, continuous, apparatus for, in peritonitis, *406
  treatment of scrofulous lesions, (29) 444
Saliva, cat's, diastase in, (59) 350 ab
Salivary glands, symmetrical lymphangioma of, (87) 632
Salpingitis, puerperal, (32) 2001
  tuberculous, (27) 952, (82) 1110
Salt adding grain of, to professional ethics, (165) 950
  and gastric secretion, (41) 537—ab
  and sugar solutions, infusion of, in infants, (66) 630—ab
  and water, pathology of metabolism of, (84) 1559—ab
  elimination in urine of individual with general edema of obscure origin, followed by cure, (35) 2002
  injurious in essential polyuria, (69) 82
  metabolism and ash free diet, *727
  metabolism in experimental nephritis, (146) 1475
  metabolism, in pneumonia, (70) 446—ab
Salts and heart beat, (68) 169
  and non electrolytes influence of, on heart, (60) 350—ab
  physiologically isotonic solution of, *752
Sanatoria plea for more, for consumptive poor in all stages of disease, (7) 348
  treatment in, or change of climate in pulmonary tuberculosis, (3) 2088—ab
Sanatorium and home treatment of tuberculosis, (46) 2188
  treatment of tuberculosis, (59) 76, (14) 944
Sanitarians and sanitary inspectors, course of instruction for, (19) 2001
Sanitarium for consumptives in West Virginia (153) 950
  state, for tuberculosis, necessity of, (150) 950
Sanitary conditions among Alaskan Indians (50) 623
  inspectors and sanitarians, course of instruction for, (19) 2001
  power as police power of state, (52) 2188
  supervision state (17) 1184—ab
Sanitation and ankylostomiasis in tropics, (13) 1907—ab
  and hygiene domestic, municipal, national and international, (77) 869
  and physician, (117) 869
  camp and military hygiene, (86) 1466
  German field regulations for, (119) 950
  in India, (3) 1820
  in territorial camp, (9) 1466
  of mines, (5) 1466
  of small cities (81) 1552
  Panama, Treves commends, 651—ab
  problems of (174) 970—ab
  railway, (51) 2185—ab
Santonin in dysentery, (55) 1469—ab
Saranac laboratory, work on opsonins at, (10) 166—ab
Sarcoma and diseases of blood, (85) 2004—ab
  congenital teratoid sacral, with metastases, (65) 1286
  conservative treatment of, (113) 1037—ab
  diagnosis of, (41) 1641, (58) 2003
  diffuse, giant celled, of tendon sheaths, (75) 2193
  epicerebral, removal of, in region of left sensory motor convolution, (88) 358
  Hodgkin's disease a type of, (135) 753—ab
  idiopathic multiple hemorrhagic, *1205
  intestinal, (68) 2193
  intranasal, (65) 1280
  melanotic, of common bile duct and ampulla of Vater, (106) 260—ab
  metastatic, involving osseous system, (74) 1904
  of appendix, and primary carcinoma, (108) 260—ab
  of chorioid, (124) 1188—ab
  of femur, congenital, cured by operative and x ray treatment, (70) 1286—ab
  of gall bladder, primary, (56) 1556
  of great omentum, primary, (66) 81—ab
  of kidney, in infancy, (55) 76
  of liver, primary, (144) 268, (107) 800—ab, (32) 1640
  of lymph glands simulating granuloma, (83) 539—ab
  of pancreas, primary, (125) 1474
  of ovaries, (110) 949
  of rectum and anus, primary, melanotic, (22) 790—ab
  of rectum, non melanotic, (82) 176—ab
  of right orbit, (119) 352
  of right os innominatum simulating appendix abscess, (7) 260
  of tonsil, (3) 621
  of uterus, perithelial, *1227
  osteitis of lower jaw, simulating, (53) 445
  primary, in muscles, (121) 1914
  results in treatment of, (112) 1037—ab
  round celled, new lymphatic vessels in cancer, with demonstration of origin and ingrowth in metastases of, (145) 1111
  small of ciliary body showing unusual manifestations of malignancy, (126) 1188
  x rays in, (55) 947
Sarcomatosis of lymphatic glands, (3) 535
Sausages and their hygienic preparation, examination of, (18) 952—ab
Sawdust bread in habitual constipation, (85) 539—ab
Scabies, (96) 949
Scalds and burns, (32) 354, (121) 1734
Scalp, and lobule of ear, recurrent keloid of, (86) 1552
  microsporon affection of, (49) 953
  tumor, giant, (91) 1913—ab
Scaphoid, injuries of ankle region especially, (77) 1114—ab
  isolated fracture of, (81) 1114
Scapula, endothelioma of, with removal of entire bone, *757
Scar formation, possibility of avoiding in softened tuberculosis of cervical glands, (1) 2000—ab
  reduction of size of, by iodin, (86) 956—ab
Scarlatina and measles, complicated by otitis media, treatment of, (48) 1279—ab
  hydrotherapy in, *1304
  rheumatoid, gangrene of skin in, (28) 1554
Scarlatinal joint affections, (59) 874—ab
Scarlet fever, (97) 352, (45) 623—ab, (78) 1375—ab, *1407
  and erysipelas, (115) 1651—ab
  and scarlatiniform eruptions, differential diagnosis of, (22) 2186
  at Zurich, 1902 1906, (89) 652
  case developing acute nephritis treated by spartein sulphate, (25) 707
  causal germ of, (64) 1739—ab
  complement binding in, (105) 1741, (66) 1911—ab
  deviation of complement in, (57) 1115
  epidemic in Jerome, Ariz., 1907, (138) 1282
  epidemic of hemorrhagic, nephritis following, *1410
  greater preventive care during, (65) 948
  home treatment of, (9) 1907—ab

Scarlet fever, localized outbreak of, due to infected milk, (11) 1189
  patients behavior of serum of, in syphilis serum test, (67) 1470—ab
  perforation of empyema in ethmoidal and frontal sinuses into orbit, typical complication of, (69) 1648—ab
  prophylactic measures necessary to prevent complications (118) 442
  pyocyanase in, (91) 1288—ab
  rubella and rubeola, complications of, (120) 1819
  serum reaction in, (68) 1823
  treatment of, (114) 634, (116) 1042—ab, (13) 1644, (67) 1823—ab
  wound, (41) 2095—ab
Scarlet oil, influence of, on mouse tumors, (120) 2197—ab
Scharlach R salve healing of granulations under, (106) 156—ab
Schaudinn, Fritz, (147) 534
Schistosoma japonicum, infection of a Filipino by, (28) 73
Schistosomiasis, condition of liver in, (32) 1185
Schistosomum mansoni Sambon 1907, is what? (37) 1038—ab
School advice and physician, (111) 1188
  age, (61) 532—ab
  age, incidence of pulmonary tuberculosis in children of, (30) 1112—ab
  and home, preventive medicine in, (79) 948
  hygiene, (32) 1112
  life from viewpoint of psychologic medicine, (21) 1377
  of Montpelier, (72) 1732
  of tropical medicine, Honolulu, (85) 169
  public, education in (99) 867—ab
  rooms, artificial illumination of, (119) 1905—ab
Schools, corporal punishment in, from neurologic standpoint, (89) 1115
  Medical See Medical College
  medical inspection of, (13) 627, (64) 948—ab, (119) 1377, (38) 1379
  public, eye conditions in, (5) 789—ab
Sciatica, (17) 354—ab, (72) 1552—ab, (135) 1734
  from compression by echinococcus cyst, (153) 1044
  from lemonade, 1081—ab
  surgical treatment of, (79) 715—ab, (110) 800—ab (42) 1555
Science, recent advances in, and medicine and surgery, (1) 1553—ab
Scillitin, (104) 949
Sclerema in newborn infant, (97) 799
Scleroderma, (116) 626
Sclerosis, acute disseminated (18) 628—ab
  coronary artery, (74) 1465—ab
  diagnosis of multiple, (114) 919
  disseminated, eye manifestations of, (80) 1036
  incipient multiple, importance of disturbances in optic nerve in, (70) 1470—ab
  insular, diagnosis of, (81) 1036—ab
  middle ear, *364
  multiple, course, prognosis and treatment of, (82) 1036
  multiple, etiology and pathology of, (78) 1036
  multiple, optic nerve changes in, *120
  multiple, signs and symptoms of, (79) 1036
  of lymphatics corresponding to arteriosclerosis, (150) 1475—ab
  of spinal cord, (29) 1645
Sclerostome, rare, of man in Nyasaland, (25) 354
Scoliosis and insufficiency of spine, (69) 1911
  and muscular atrophy, infantile paralysis with, (43) 1907
  and rachitis, (65) 798—ab
  congenital, (138) 442
  lumbar, deformity of hip with, (68) 1039
  paradox position of pelvis in, (31) 1640
  results of modern treatment of, (103) 716
  simple method in recording, (103) 77
  treatment of, (104) 77
Scopolamin anesthesia, (55) 624
Scopolamin morphin anesthesia, (65) 714—ab, (21) 2001
  and chloroform anesthesia, (13) 1377 ab, (45) 1468—ab
  anesthesia in gynecology, (127) 267—ab
  anesthesia in obstetrics, (73) 175—ab, (115) 177—ab, (76) 875, (11) 1377, (123) 1827—ab
Scorbutus, (88) 2098
Scorbutus, or infantile scurvy, (108) 626
  pathology and anatomy of, (101) 1913—ab
Screw apparatus to promote healing of fractured patella, (87) 1381—ab
Scrofula, treatment of, (57) 1193
Scrofulous lesions, saline treatment of, (29) 444
Scurvy in South Africa, (9) 353
  infantile, (50) 257—ab, (79) 259—ab, (108) 626
  infantile causation and treatment, (22) 1907—ab
Scrotum, elephantiasis of, operative cure, (36) 2187
Sea bathing in tuberculous affections, (112) 2099
  climate, and arteriosclerosis, (88) 176
  sickness and pelvic pathology, (17) 2190—ab
Seashore and brine baths in tuberculosis of glands, (54) 445
  in tuberculosis of upper air passages, (127) 359
Seating, improper, of school children, spinal curvature arising from, and its prevention, (115) 170
Seborrhea and alopecia and acne, (13) 1371
  and its sequelæ, (95) 1281—ab
  oily, x-ray treatment of, (66) 714
Secretion and digestion, effects of alcohol on, (101) 793
  internal, action of drugs on, and nerve antagonism, (175) 87
  from pancreas fistula and influence on it of antidiabetic diet, (68) 1380—ab
  internal, reciprocal action of glands with, (140) 1475—ab
Secretions, internal, function of, (100) 1377
  internal and psychoses, (51) 872
Sedatives, soluble, of veronal group, (94) 540
Self insufflation of vapor into middle ear, tube for, (19) 1032
Self repair, therapeutics of, (49) 703—ab
Seminal vesicle or inflamed prostate, determination of gonorrheal infection in, (12) 1108—ab
Senn, Nicholas, in memoriam, *961
Sensation phrictopathic, significance of, (72) 792—ab
Sensism and cognition, (59) 1552—ab
Sensitizer, specific in Malta fever serum, (63) 1039
Sepsis, bacterial vaccines in, (82) 792—ab
  general, and pyemia, treatment of, (93) 799
  meningococcus (100) 1561—ab
  passive congestion in, (35) 1756
  postoperative, lethal factor in amebic abscess of liver, (14) 1821—ab
  puerperal, (133) 1282
  puerperal, major operations in treatment of, (35) 952—ab
  puerperal, streptococcus aggressins in blood in, (89) 799
  puerperal, treatment of, (80) 1552
  staphylococcus, nodose periarteritis as consequence of, after angina, (104) 266
  treatment of, with rectal injections of silver salts, (79) 875
Septicemia See also Sepsis
  from B pyocyaneus, and true chronic bullous pemphigus, (40) 873
  gonorrheal, with marked cardiac involvement, (17) 1549
  in human plague, experiments on infectivity of excreta, (26) 628—ab
  melitensis, (1) 171, (1) 260, (4) 353
  secondary cancer, (22) 2236—ab
  tuberculous, subacute form of (48) 873—ab
  with acute fibrinopurulent pericarditis and hypopyon iritis caused by meningococcus, (44) 1903—ab
Septum Nasal See Nose
Sera See Serum
Sermons, midnight, medical texts for, (60) 791
Serodiagnosis in mothers of infants with inherited syphilis, (84) 876—ab
  of leprosy, (78) 875
  of staphylococcus affections, (77) 2194—ab
  of syphilis, (171) 87—ab, *824, (18) 871, (83) 876—ab, (19) 944—ab, (48) 953—ab, (115) 1042, (121) 1117—ab, (45) 1191, (75) 1193, (76) 1739, (134) 1820, (83) 2010—ab, (109) 2011—ab, *2149, (71) 2193, (87) 2194
Serodiagnosis of syphilis and mental affections, (17) 1285—ab, (67) 2008—ab
  of syphilis, comparison of alcoholic and watery extracts in, *2149
  of syphilis in affections of aorta and tabes, (87) 2191
  of syphilis, practical importance for surgery of, (71) 2193
  of syphilis, simplification of technic for, (45) 1191
  of syphilis with antigens from rabbits, (120) 878—ab
  of syphilis with urine, unreliability of, (47) 953
  of tuberculosis, *1756
Serositis, multiple, (16) 2186
Serotherapy and prognosis, under various forms of treatment, of cerebrospinal meningitis, (8) 1371—ab
  and vaccine therapy, (33) 1902—ab
  characteristics of passive immunity conferred by, (53) 81
  new generalization in, (17) 172—ab
  of bacillary dysentery, (121) 442
  of carcinoma, *1488
  of croupous pneumonia, (118) 2196
  of eye affections, (81) 539, (29) 1283
  of gonorrhea in female children, (78) 169—ab, *1298, *1301
  of habu venom, (70) 532
  of infectious diseases in city of Glasgow Fever and Smallpox Hospitals, (46) 1379
  of meningitis, *15, *21, (76) 175, (18) 255, *269, (29) 1184—ab, (70) 1193—ab *1315, *1318, (80) 1375, (17) 1639, (79) 1643, (27) 1645—ab, (16) 1729, (83) 1739, (5) 1815, (98, 101) 1819—ab, (95) 1825 (11) 1906 ab, (90) 1913—ab, (39) 2002, (37) 2187, (117) 2196
  of meningococcic meningitis, (99) 1819—ab
  of nephritis, (57) 1738—ab, (59) 1823—ab
  of puerperal fever, (149) 86
  of tetanus, (54) 1113
  of tuberculosis and endobacillary albuminoids, (86) 1739
  pneumococcus, of infecting corneal ulcer, (92) 1115
Serum anaphylaxis, (108) 1110
  anaphylaxis and intoxication in guinea pig, the mechanism of, (92) 869
  animal, fresh, in hemorrhage, (2) 457—ab
  and urine of syphilitics, presence of complement binding substances in, *1142
  antianthrax, use of in Philadelphia Municipal Hospital, (109) 1282
  antigonococcus, *105, (108) 1733, (1) 1900—ab
  antigonococcus, in gonorrheal arthritis, *674
  antilytic, treatment of chronic gastric and duodenal ulcer with, (14) 1644
  antimeningitis, complications following use of, (70) 1193—ab
  antimeningitis, intraventricular injection of in cerebrospinal meningitis, followed by obstructive hydrocephalus, (159) 870
  antimeningitis, method of administering, (15) 2234—ab
  antimeningitis, use of, *15, *21, (76) 175, (18) 255, *269, (29) 1184—ab, (70) 1193—ab, *1315, *1318, (80) 1375, (17) 1639, (79) 1643, (27) 1645—ab, (16) 1729, (5) 1815, (98, 101) 1819—ab, (11) 1906—ab, (90) 1913—ab, (39) 2002, (67) 2003, (37) 2187, (117) 2196
  antipneumococcus, Romer's, action of, in croupous pneumonia, with regard to leucocyte (107) 1826
  antistreptococcus, three cases treated by, (24) 80
  antistreptococcus, in streptococcus infection of eyelids, (15) 443
  antitoxic, in prophylaxis of tetanus, (36) 173—ab
  antitryptic power of, diagnostic significance of, (74) 2009—ab
  beef, in ophthalmia neonatorum, (95) 876—ab
  Cuguillère's, in tuberculosis, (14) 1278
  curative, dangers of reinjection of, (84) 2098
  dangers of repeated injection of, (102) 1382 (104) 1740
  Deutschmann's, against infectious diseases, (17) 438—ab
  disease as clinical manifestation of anaphylaxis, (59) 709—ab
  eel, toxin and anaphylactic substance of, (90) 1040
  Flexner's. See Serum Antimeningitis
Serum, fresh normal, theory of therapeutic injections of, in acute infections, (64) 702
  heated, effect of, on rouleaux formation of red blood corpuscles, (46) 1464
  horse, abnormal reactions to, in serotherapy of meningitis, (26) 2191—ab
  horse, anaphylaxis to, (23) 1184—ab
  horse, chemical separation of anaphylactin from, (93) 869
  horse, hypersusceptibility to, (92) 259, *840
  horse, recurrent anaphylaxis and repeated intoxication in guinea-pigs by, (97) 869
  human, rabicidal properties of after antirabic treatment, (3) 78—ab
  in kidney and liver diseases antigens and cellular antibodies in, (94) 1195
  intoxication, cause of death in, (99) 869
  Malta fever, specific sensitizer in, (63) 1039
  Maragliano's untoward effects of, (62) 2188—ab
  Marmorek's, (106) 2194
  Marmorek's, in surgical tuberculosis with, (135) 1474—ab, (88) 1913—ab
  Marmorek's, in joint tuberculosis, (116) 1553—ab
  normal, action of, on organism, (98) 632
  normal and immune, opsonins of, (25) 256—ab, (113) 869
  normal, antagonistic power of, (58) 1469—ab
  normal, specificity of opsonins in, (24) 256—ab
  of animals, presence of nephrotoxic substances in, with experimental nephritis, (45) 1903—ab
  of animals with trypanosomiasis, non specific disappearance of opsonin in, (113) 1741
  of scarlet fever patients, behavior of, in syphilis serum test, (67) 1470—ab
  oral use of, (30) 1098
  prophylaxis and diphtheria epidemic at Soro, 1908, (129) 1914
  reaction, cutaneous, in syphilis, (124) 178
  reaction in scarlet fever, (68) 1823
  research, modern, Colles' law and Profeta's law in light of, (118) 1290
  Rogers Torrey See Antigonococcus, (1) 1900—ab
  Romer's pneumococcus, in croupous pneumonia, (89) 1740
  syphilitic, fat-splitting properties of, and importance of lipolysis for serodiagnosis of syphilis, (57) 797
  syphilitic, precipitation with distilled water in, (117) 450
  test, fixation of complement in, (66) 1911—ab
  typhoid, amboceptors and complement in, (44) 1464
  tuberculous, antibodies in, that in connection with tuberculin bind complement, (58) 1193
Serums, two, action of, on carcinoma in mice, (6) 1282
Sesamoid bones of first metatarsophalangeal joint, pseudofractures of, (67) 798
Sewage, determination of total and volatile suspended matter in, (81) 1466
  may not drinking water when polluted with, be medium of dissemination of tubercle bacillus? *380
  menace in New York harbor, (57) 1552
  plant established at N J State Tuberculosis Sanatorium, account of, (68) 868
  purification, (144) 1906
  purification, Hampton interpretation of operation of, (14) 1111—ab
Sex and venereal diseases, instructions on, addressed to women of Texas in interest of home and public health, (82) 1281
Sexual hygiene, (92) 710—ab
  organs, male, prophylaxis of functional disturbances of, (90) 948
Shock and hemorrhage as postoperative complications, (101) 1904
  can operation be done for extra uterine pregnancy during, (73) 2009—ab
  cause and treatment, (149) 78
  mechanism of, an acute disease of pancreas, (128) 170
  nature of, (132) 534, (34) 1462—ab
  surgical, (1) 165—ab

Shock, surgical, experimental production and control of vascular atony of, ( ) 1[illegible]77—ab
  syncope and collapse, (60) 1183
  treatment of, (48) 1[illegible]1 (110) 190[illegible]—ab
Shoe for flatfoot, (117) 81
Shoulder, dislocation, recurrent, of, successful operation for, (66) 624
  dislocation, rare, of, (47) 7[illegible]7
  dislocation, simple traumatic, of, prognosis, (74) 219[illegible]
  fracture dislocation of, (54) 74—ab
  high congenital, etiology of, (119) 717
  impacted, tonic contraction of uterus, removal of uterus and contents by panhysterectomy, ( ) 872
  periarthritis of, (16) 16[illegible]9—ab (17) 17[illegible]0—ab (4) 1815—ab (17) 1[illegible]01—ab (17) 2[illegible]11 (19) 22[illegible]4—ab
Shoulders, dislocation of, simultaneous, (42) 62[illegible]
Shovel retractor for operations on biliary passage, (80) 2047
Sialolithiasis, *1[illegible]99
Sick, principles of feeding, (80) 9[illegible]—ab
Sickroom, why should exact hygiene be negligible factor in? (152) 951
Siderosis of eye caused by piece of iron scale which x-ray failed to locate, (100) 1460
Sight, restoration of, after nearly a month's blindness *from glaucoma*, (4) 218
  stereoscopic acuity of, measurement of, (5) 2[illegible]0
Sigmoid, acute diverticulitis of, operation before rupture, *51[illegible]
  and rectum, cancer of, surgical treatment, (27) 167—ab
  and rectum, new position for diagnosis and treatment of disease of, *11[illegible]4
  and rectum, prolapse of, following hysterectomy, *1125
  carcinoma of, early diagnosis of, (4) 944
  excessive length of, (128) 7[illegible]
  [illegible] case of, (14) 1111
  multiple diverticula of, (12) 1906
  tuberculous tumor of, causing stricture, (84) 1040
Sigmoiditis, (16) 10[illegible], (37) 1464
Silicic acid concrements in lungs treated with, (63) 874
Silk tendon as substitute for peroneus, (69) 264
Silver, colloidal, in infectious diseases, (49) [illegible]55
  colloidal, in malignant endocarditis, death resulting, *1510
  nitrate, glycerin as adjuvant to, (32) 1283
  nitrate in typhoid, (89) 1281—ab
  preparation, pigmentation after prolonged administration of, (125) 654
  salts, rectal injections of, in septic affections, (79) 875
Simaruba in ileocolitis of infants, (29) 1372
Singer's nodule in larynx, etiology and treatment of, (92) 1040—ab
Sinus, cavernous, fatal thrombosis of, following chronic purulent otitis, (34) 537
  cavernous, septic thrombosis of, (32) 946
  cavernous, septic thrombosis of, following radical mastoid operation, (40) 1646
  cavernous, vein occupying sphenoidal wall communicating with, operative fatality and autopsy, (143) 950
  empyemas, frontal, surgical principles essential to cure of, (89) 2092
  frontal, diseases of, and their surgical treatment, (71) 2091
  frontal, empyema of, endonasal operation for, (150) 353
  frontal, external operation on, without deformity, *451
  frontal, intranasal method of drainage, (134) 7[illegible]
  frontal, intranasal method of opening and establishing drainage, (67) 1552
  frontal, unusual, (41) 1646
  lateral, thrombosis of, and internal jugular vein following suppurative mastoiditis, (68) 674
  Maxillary. See Antrum, Maxillary
  of first branchial cleft, (22) 103[illegible]—ab
  of Valsalva, pseudoaneurismal dilatation of, with malformation of the heart, (51) 111[illegible]
  pilonidal, *[illegible]16
  sphenoid, *21[illegible]
  sphenoid, cancer removed from, (79) 2[illegible]07
Sinus, sphenoid, radical operation for empyema of, *2108
  sigmoid and internal jugular vein, operation for thrombosis of, of otitic origin, (1[illegible]5) 9[illegible]0
  superior longitudinal, compression of by a glioma, venous accommodation after, (4) 2005
  thrombosis complicating mastoiditis, atypical and typical, (140) 959
  thrombosis, lateral, (12) [illegible]
Sinuses, adjacent, and orbit, mixed streptococcus and pneumococcus infection of, (111) 1905—ab
  frontal and anterior ethmoidal, optic neuritis due to chronic empyema of, (65) 76[illegible]
  disease of, contiguous to orbit, with ocular infection, (112) 1903
  ethmoidal and frontal, perforation of empyema in, into orbit, typical complication of scarlet fever, (69) 1618—ab
  maxillary and frontal, transillumination of, (68) 620
  nasal accessory, diseases of, surgical treatment of orbital complications in, *299
  nasal accessory, drainage mechanism of, (120) 870
  nasal accessory, inflammation of, as sequel of influenza, (99) [illegible]2
  nasal accessory, suppuration of, (55) [illegible]
  paranasal and tonsillar ring as portals of entry of infectious diseases, (87) 2004
  superior longitudinal and lateral, thrombosis of, complicated by pregnancy, *[illegible]97
  tuberculous, treatment of, (68) 709—ab (112) 1532—ab
Sinusitis, maxillary, relation of to hay fever and asthma, (100) 352—ab
  non-suppurative frontal, headache of, (152) 171, (103) 1532
  with eye complications, (109) 1819
Skeleton, influence of suprarenals on, in osteomalacia and rachitis, (7) 1977—ab
  rachitic changes in, in ancient times and in middle ages, (131) 1474—ab
Skiagraph in diagnosis of disabled foot, (125) 9[illegible]0
Skiagrams and new orthodiascope, x-rays as aid to diagnosis of tuberculosis of lungs with demonstration of, (64) 1904—ab
  of foreign bodies, details of experiments, (12) 1183
Skin *and eye pigment*, staining technic for, (114) 1477
  arsenic in diseases of, *1482
  behavior of, in response to bacterial poisons, (128) 359
  dermolysis, an undescribed dissolution of, (81) 710—ab
  diseases, abuse of arsenic in treatment of, and deleterious results from its injudicious employment, (95) 239—ab
  diseases and diseases of other organs of body, (71) 792
  diseases, electrolytic medication in, (21) 1735
  disease of childhood, diagnosis of, (62) 532
  diseases, opsonic treatment of, (34) 80
  diseases, pathology in its practical bearings on, treatment of, (93) 259
  diseases, x-ray in, (84) 948 (102) 1472
  emphysema in, as accident from intubation, (58) 874
  epithelial growths of, *1398
  epithelial tumors of, and exposed mucous membranes, (86) 710
  eruption specific in pneumonia, (16) 21[illegible]0—ab
  gangrene of, in rheumatoid scarlatina, (28) 1554
  grafting, (56) 1185—ab, (58) 1465
  histologic *modifications engendered in affections of*, by intercurrent febrile infection, (41) 873
  idiopathic atrophy of, (27) 2094
  manifestations unusual, in intestinal autointoxication, (105) 1466
  method of preventing infection from during surgical operations, (2) 621—ab (114) 2012—ab
  multiple fibroma of, in pregnant woman, (99) 1826
  nevi and other lesions of, carbon dioxid snow in, (75) 356—ab, (106) 1037—ab
  painful zones in, in disease of viscera, (5) 944—ab
  postscarlatinal gangrene of, (67) 714
  reaction to diphtheria antitoxin, *1510
Skin reaction to tuberculin in children and infants, (91) 540—ab, (103) 541, (62) 791 (91) 1559 (110, 112) 1741—ab *1756 (82) 1912—ab
  reaction to tuberculin in measles, (61) 798—ab
  reaction to tuberculin in surgical affections, (9[illegible]) [illegible]58
  reaction to tuberculin with tubercle bacilli substance precipitated with iron, (72) 681
  sensibility of, (117) 2100
  serum reaction in syphilis, (121) 178
  syphilis, diagnosis of, (58) 791—ab
  therapeutic action of adrenalin applied to, (41) 1908—ab
  tuberculosis, (72) 441
  tuberculosis, toxic non-bacterial, (11) 1012
  tuberculosis, x-ray in, (27) 261—ab
Skull and face, asymmetry of, and torticollis, (82) 1194
  depression of, in new born infants, treatment, (98) 1288
  fracture at base of, with prolonged unconsciousness, (156) 1037
  fracture of base of, with diastasis of left temporo-parietal articulation, recovery, (73) 1818—ab
  fracture of, compound comminuted, (102) 1643
  fractures of, bursting, decompressive operations in, (80) 74
  fracture of, injuries of cranial nerves from, *271
  gunshot wounds of, postmortem findings in, (110) 2194
  hyperalgetic zones after injuries of, (101) 448—ab
  osteoplastic resection of, (31) 74
  severe trauma of, pneumococcus meningitis direct result of, (101) 182[illegible]
  syphilitic necrosis of, illustrating easy way for removing sequestra, (4) 872—ab
Sleep, experimental study of, (44) 2187
Sleeping, outdoor, in asthma and other chest troubles, (28) 354—ab
Sleeping sickness, (51) 869
  atoxyl in, (21) 1378
  nervous and mental symptoms, (16) 1006
  prevention of, (4) 1644
  reports of expedition to Zambesi for years 1907-1908, (25) 537
Sleeplessness, (130) 626
Sling for application of plaster jacket, (112) 1819
Smallpox, (38) 531
  in Atchison county, Kansas, (91) 77
  in Minnesota, (18, 20) 2001, *2151
  large doses of mercury and chalk in, (38) 2191—ab
  quarantine of, *2151
Smell and taste, cerebral centers for and uncinate group of fits, *879
  perverted sense of, (73) 798
  subjective sensations of, and their significance, (81) 1186—ab
Smoke abatement, (7) 1111—ab
  bituminous coal, its chemistry and effects on health of man and plants, works of art and commerce, (8) 1815—ab
Snake poisoning in U. S., (29) 349—ab, (52) *947—ab*
Snoring, mouth breathing, etc., (119) 793—ab
Snow, carbon dioxid, nevi and other lesions of skin, (75) 356—ab (106) 1037—ab
Soap compounds as complements, (58) 630
  concretions in cholelithiasis, *674
Social evil, what shall we do with it? (100) 169
  prophylaxis, (85) 710
Society and malnutrition, (15) 1278—ab
  physician and, (183) 951
  state responsibilities and duties of, (146) 1037
Sodium cacodylate in skin diseases, *1482
  carminate, indigo carmin and methylene blue kidney secretion of, (50) 1108—ab
  chlorid content of blood and other body fluids, determination of, *478
  chlorinated, marked disinfecting action of solution of, (82) 1649
  glycocholate, precipitate reactions with, (2) 1729
  nitrate in pulmonary hemorrhage, (89) 869—ab
  nucleinate in acute infections, (64) 2185
  saccharate solution, tonic action of, given by rectum, (100) 87—ab
  salicylate in sympathetic ophthalmia, (124) 1652—ab
Sodium taurocholate, precipitate reactions with, (2) 1729
Solar therapy and sunlight in tuberculosis, (77) 710
Soldiers, disabled, transported on regulation litter, using only mounted soldier's equipment, (122) 950
  feeding of, in barracks, hospitals and war, (14) 871
Solution, Smith's, and bile media, use of, (76) 1166
  of salts, physiologically isotonic, *752
South Africa, scurvy in, (9) 353
Spa treatment of heart affections, (32) 41
Spartein sulphate, in scarlet fever with acute nephritis, (28) 707
Spasm in children, tendency to, and *lime metabolism*, (57) 874—ab
Spasms and cramps, differential diagnosis of, from other nervous conditions, (31) 2186
  control of, by asphyxiation, (35) 1278—ab
Specialist and laboratory worker and general practitioner, (54) 257
Specialists, country doctor's relations with metropolitan institutions and, (1) 1071
  question of, (64) 1823
Specific gravity and volume of organs, (27) 1816—ab
Spectroscope for comparison, (103) 1650
Speculum, ear, with handle, *1330
  for vagina with intact hymen, (81) 447
  rectal, (41) 1551
Speech center, modern views of, (139) 1013
  in children, disturbances in, general pathology and symptomatology of, (75) 798—ab
  neglected treatment of, by general practitioner, (7) 789
Spermatic fluid, dust in, (126) 359
Spermatocele, (122) 626
  and hydrocele, (134) 170
Spermatocystitis, 396—ab
Spermatorrhea, (123) 696
Spermatozoa, fate of, (99) 541
  motility of, in epididymis, *1424
Sphenoid, ethmoid and antrum, submucous resection of lateral nasal wall in chronic empyema of, *1136
  sinus occupied by vein communicating with cavernous sinus, operative fatality and autopsy, (143) 950
Sphincter control, attempt at, by new method of colostomy, (19) 2093—ab
  preservation of, excision of rectum for cicatricial stricture by combined method, with, (119) 1282—ab
Sphygmobolometer, examination with, (77) 175—ab
Sphygmomanometer, indications for use of, (92) 1377
*Sphygmomanometry, device for facilitating, *919
Sphygmotonograph and its findings, (141) 1475—ab
Spina bifida, treatment of by drainage of cerebral subdural space, (10) 951
Spinal Anesthesia. See Anesthesia, Spinal
Spinal cord *and brain, eye manifestations* of, organic diseases of, (97) 1643
  and medulla, tuberculosis of, course of cerebello-olivary fibers in, (13) 445
  degenerations following injury to posterior roots of seventh cervical nerves, (90) 1376
  diagnosis of injuries of peripheral nerves from those of, (154) 1734
  gunshot wounds of, operative treatment, (88) 1471—ab
  sclerotic diseases of, (29) 1645
  surgery, diagnosis in, (72) 1818—ab
  transverse lesion of, symptom complex of, and its relation to structural changes therein, (49) 167
  transverse severing of, at third dorsal vertebra, (103) 448—ab
  tumor, and suppurative pachymeningitis externa, (80) 2091
  tumor and trauma, (139) 170
Spinal curvature arising from improper seating of school children and its prevention, (115) 170
Spine, fractured, treatment of, (8[illegible]) 251
  injury to, formation of calculi in upper urinary tract after, (70) 20[illegible]7
  insufficiency of, and scoliosis, (69) 1911
  railway, (84) 1[illegible]1
  tuberculosis of, treatment of, ( ) 1467
  x-ray examination of, (68) 1[illegible]

Spirit of 1908 in medical affairs, (41) 349
Spirochæta duttoni, characteristic of, (63) 2187—ab
Spirochæta-pallida: See also Treponema pallidum
Spirochæta-pallida, (125) 78
  and syphilis, (158) 171
  demonstration of, by dark field illumination, (4) 705—ab
  diagnostic importance of, (155) 1188
  in diagnosis and treatment of syphilis. *1928, *2034
  in ultramicroscope, (84) 1649
  study of syphilitic placentæ in regard to presence of, (82) 2004—ab
  rapid method of demonstration of, for diagnosis, (54) 1374
Spirochætosis in Southern Arabia, and morphology of parasite, (35) 2191
Spirochetes in acanthia lectularia, behavior of, (48) 1039
  in mouse cancers, (93) 176
Spirochetosis of cypriote fowls, (24)354
Spirochetes of syphilis and yaws, comparative morphology of, (21) 944
Splanchnoptosis, rational treatment of, (14) 1550—ab
Spleen, abscess of, (42) 1737
  and liver, malignant disease of, cytologic examination of case diagnosticated clinically as, (141) 1734
  as hematoplastic organ, (161) 870
  diseases of, (123) 260
  enlarged, jaundice and splenomegalic jaundice, (26) 1736
  enlarged wandering complicating early pregnancy, splenectomy for, (46) 2002
  enlarged wandering, simulating pelvic tumor, (20) 2093
  enlarged wandering, with torsion of pedicle, (120) 800
  enlargements of, other than leukemic, (13) 1736—ab
  genesis of multiple cysts in, (94) 2098
  hydatid cysts of, (43) 873—ab
  necessity and possibility of retention of, in injury or disease of this organ, (66) 2193
  non-parasitic cysts of, (131) 352
  polycythemia with and without enlargement of, (93) 632
  rôle of, and blood corpuscles, histologic modes of destruction of, in production of blood pigment, (27) 796
  rupture of subcutaneous, (36) 790-ab
Splenectomy, (35) 790—ab, (120) 800, (16) 1462
  and arteriovenous anastomosis, Banti's disease with, (47) 1108
  for enlarged wandering spleen in early pregnancy, (46) 2002
  for splenomegaly; recurrence (89) 1733
  in Banti's disease, (110) 260—ab
  splenic anemia and recovery, (30) 866—ab
Splenomegaly, chronic acholuric icterus with, (87) 1288
  probable, (30) 1372
  splenectomy in, (110) 260—ab
  splenectomy in, and arteriovenous anastomosis, (47) 1108
  splenectomy, recurrence, (89) 1733
  with sclerosis of bone marrow, human spleen as hematoplastic organ in, (161) 870
Splint, for club foot, after operation, (69) 76
  Hodgen, improved, for fractures of thigh, (37) 167—ab
  intranasal, and combined bridge for correction of depressed deformities of nose, *1421, (98) 1552
Splintage, direct, internal, in fractures of forearm bones, (37) 1379—ab
  direct internal, treatment of fractures by, (143) 1734, (27) 1736
Splinters and granula, (49) 2095
Spondylitis, cervical deforming, etiology of, (110) 633
  children with, x-ray diagnosis of tuberculosis of pulmonary glands in, (69) 2097
  cervical, treatment, (62) 1556
Spondylose rhizomelique, nervous system in, *463
Sponge, gauze, intestinal obstruction by, *841
Spores developed at elevated temperature, (12) 2000—ab
Sporotrichosis, (28) 2094
  spontaneous, in three puppies, (55) 81
Sporotrichum beurmanni, epididymitis, orchitis and vaginalitis from, (43) 1737
Sprains, (17) 795
  treatment of, (135) 170—ab
Spud, illuminated, (132) 1188
Sputum, glycogen in, diagnostic significance, (128) 1561—ab
  pneumonic, bilirubin content of, (113) 717
  pneumonic, pigment of, (104) 541
  stained specimens of, diagnosis of influenza from morphologic standpoint in, (6) 166—ab
  tubercle bacilli in, tuberculosis with and without, (128) 1828—ab
  tuberculous, differentiation of, with Millon's reagent, (120) 2012
Squint, (109) 1614
  congenital, (155) 1734
  management of, (131) 1188, (32) 1907
Stain, Romanowsky, modification of, (36) 1378
  ultrarapid triple, (133) 1474
Staining technic for eye and skin pigment, (114) 1473
Stapes and tympano-mastoid operation, (12) 1734
Staphylococcemia, attenuated nonsuppurative, (69) 2008
Staphylococci, agglutination of, (126) 1290
  saprophytic and pathogenic, differentiation of, (66) 1286—ab
Staphylococcus affections, serodiagnosis of, (77) 2194—ab
  glossitis, (110) 84
  infecton of genitals, (60) 2008—ab
  sepsis, nodose periarteritis as consequence of, after angina, (104) 266
  vaccine, administration and dose of, (11) 1735
Starch digestion in stomach and intestinal digestion, (44) 1555
  in infant feeding, (51) 76
Starvation, liver glycogen in, (116) 2100
State board, (149) 950
  board examinations, character of, (141) 870
  boards, medical examining. competency of, (141) 870
  duty of, to its citizens, (87) 1904
  laboratory, aid of, in diagnosis and treatment, (100) 2005
  medicine, hygiene and materia medica, (66) 1375
Static findings, what to prescribe after, (107) 1037 ,
Statistics, morbidity, purposes and objects of, and methods of collecting them, (14) 1815
  surgical, plea for uniform registration of operation results, (24) 1554
  vital accurate, necessity of, (60) 868
  vital and public health, (151) 950
  vital, importance and means of securing, (118) 1819
  vital laws of Texas, imperfections and possible remedy, (91) 793
  vital, registration of, *2212
  vital, uniformity in, *2051
Status-lymphaticus, (51) 867
  and anesthesia in tonsil and adenoid operation, (68) 1185—ab, (105) 1552
  two cases suggesting relationship to, (36) 2006
Steamships, drinking water on, (28) 2191—ab
Steel in eye seventeen years, (154) 950
  treatment of recent injuries to eye, by penetrating pieces of, (119) 1037
  weighing less than milligram removed from vitreous with resulting normal vision, (102) 1466
Stenosis and tumor, ileocecal tuberculosis causing pathology and therapy of, (45) 2095—ab
  esophageal, diagnosis of, (23) 1640-ab
  intestinal following strangulated hernia, (48) 2192
  intestinal from submucous hematoma in hemophiliac, (50) 1909
  laryngeal diphtheritic, intubation for, (79) 1912
  laryngeal or tracheal, severe chronic, laryngostomy and tracheolaryngostomy in, (59) 1039, (50) 1380
  laryngeal, treated by laryngoscopy, (23) 707
  laryngeal, treatment of, (1) 621—ab
  laryngotracheal, chronic, cured by laryngotracheostomy, (126) 450
  mitral and relative insufficiency of pulmonary valves, (115) 2196—ab
  mitral, experimental, volume curve of ventricles in, and its relation to physical signs, (80) 2004
  mitral, true and false, differentiation of, (121) 2012
  or obliteration of common bile duct, consequences of, (131) 1043
Stenosis, permanent, of common duct from inflammation or duodenal ulcer, (9) 530
  pyloric, benign, simulating gallstone affections, (68) 1114
  pyloric, congenital, (59) 532—ab, (2) 705, (49) 1279, (37) 1281—ab, (73) 2091
  pyloric, congenital hypertrophic and spasm of pylorus in infancy, (48) 708—ab
  pyloric, congenital, in adult, (10) 535—ab
  pyloric, hypertrophic, in infant, (44) 445
  pyloric, hypertrophic, congenital, treated medically, (8) 1038
  pyloric in infancy, (2) 705, (59) 532—ab, (73) 2091
  tricuspid, (42) 2002
Sterility in women, (10) 865
Sterilization, cataphoric, in cancer, (93) 1377, (123) 1820
  of metal instruments, (114) 800
  of potable waters by calcium hypochlorit, (14) 2235
  of rubber gloves, (119) 1117—ab
  skin for operation, (2) 621—ab, (114) 2012—ab
Sterilizer instrument, and table combined, (120) 177
Sternomastoid, torticollis from inflammatory retraction of, (51) 1380
  treatment of torticollis by lengthening, (24) 1190—ab
Stettin, diphtheria at, (58) 174
Stimulants, indications for, in pediatrics, (62) 257—ab
  used in cooking, (65) 1185—ab
Stitch, Gould, (47) 531
St. Louis, medical history of, (147) 78, (23) 167, (22) 707
Stomach, abnormal motility of, in diagnosis of gastric lesions, (8) 1106—ab
  acute dilatation of, complicating typhoid, (33) 2089
  and colon, pathology of fistula between, (97) 448—ab
  and duodenum, benign diseases of, (160) 171
  and duodenus, benign diseases of, end-results following operation for, (101, 103) 260—ab
  and duodenum, direct visual inspection of, and diaphanoscopy, (48) 713—ab, (159) 1476—ab
  and duodenum, hemorrhage from, (24) 167
  and duodenum, ulcer of, chronic, (171) 171, (110) 352
  and dudenum, ulcer of, round, (77) 533—ab
  and esophagus, bismuth in diagnosis of, conditions of, (16) 1283
  and esophagus, operations on, pathologic conditions and results of, (17 1283
  and intestinal digestion, starch digestion in, (44) 1555
  and intestinal disturbance, commonly overlooked causes for, (75) 1280—ab
  and intestinal gases, (13) 1462—ab, (9) 1549—ab
  and intestines, diagnosis of diseases of, by x-rays, (7) 710
  and intestines, perforations of, (19) 1184
  and pancreas, action of hydrochloric acid on secretions of, ferments in, (71) 875
  and trachea, foreign bodies in, (11) 1549
  and uterus, *1005
  cancer and carcinoma of: See Gastric Cancer
  chemistry of, changes in, after gastroenterostomy, (60) 1910—ab
  content, growth of lactic acid bacilli in, (101) 876
  content, hemolytic substances in and diagnosis of carcinoma, (57) 2097
  contents after test meal, importance and significance of chemical examination of, (3) 710—ab
  contents, analysis of, after gastroenterostomy, (83) 625—ab
  contents, occult blood in, and early diagnosis of organic gastrointestinal affections, (97) 83—ab
  contents, toxicity of, (51) 264
  diagnosis, x-ray in, (82) 77
  digestion, recent work on, (47) 791
  diagnostic importance of and method of obtaining pancreatic secretion from, (67) 1380—ab
  dilatation of, (55) 2188—ab
  dilatation and atony of, position differentiation and treatment of, (50) 2007—ab
Stomach, dilatation of, acute, (50) 1192—ab, (76) 1375, *1424
  dilatation of, acute, and double empyema with drainage of pleural cavities, (29) 1462
  dilatation of, acute, or duodenal-jejunal ileus? (71) 1648
  dilatation of, acute postoperative, (27) 1640
  dilatation of, atonic, (44) 1468
  disease, chronic, congenital narrowness of pylorus a cause of, in adult, (11) 535—ab
  diseases, (33) 1821
  diseases, general therapeutics of, (4) 789
  diseases of doubtful nature, early exploratory laparotomy in, (73) 624—ab
  diseases, oil in, (76) 2009—ab
  diseases, pneumococcus, (80) 875—ab
  disorders, common, among school children, (40) 531
  disorders, modern surgery in, (75) 792—ab
  disturbances and diarrheas of children in summer, (138) 534
  disturbances in masturbators, (77) 955
  esophagus and trachea, direct inspection of, (18) 2186
  examinations of, (20) 444
  excision of, for carcinoma, (132) 1553
  fasting, pepsin content in, (135) 85
  four operations on, (124) 950
  functioning, neutral-red soup test of, (82) 1381—ab
  functions of, and bismuth salts, (18) 1283
  glands, secretory functioning of, under abdominal conditions of innervation and duct arrangement, (97) 1913
  heart and diaphram, changes in outlines of, during phases of respiration shown by x-rays,(123)442
  histology of, (48) 264
  hourglass, in children, (96) 1472-ab
  hour-glass, volvulus of, (102) 2194
  infant, development of, *1750
  infant, pepsin in, and dependence of its digesting power on hydrochloric acid, (97) 1116
  inflation of, lavage, and test meal removal, rapid method of, (81) 1280—ab
  lavage and test-meal removal, device for facilitating, *673
  leiomyoma, suppurative of, with hour-glass contraction, (109) 1466
  lesser curvature of, and esophagus, resection of, and esophagostomy following osteoplastic resection of costal arch, (33) 1730
  linitis plastica of, cured by jejunostomy, (33) 1107
  motor functioning, x-ray tests of, (123) 1117
  motor functions of, (4) 710—ab
  mucous membrane of, diagnostic value of perverted secretion of hydrochloric acid by, (5) 1638—ab
  mucous membrane of, direct inspection of, (18) 795—ab
  neuroses of, (38) 74—ab
  non-malignant disease of, preoperative treatment of, (28) 1736
  non-malignant diseases of, surgery of, (3) 353
  operative treatment of perforation of, (57) 954
  origin of dyspnea, (50) 953
  overdistention and overwork of, when food is eaten too rapidly, (43) 713—ab
  paralysis of, acute, with secondary occlusion of duodenum, (122) 717
  pepsin and lab in fundus and pylorus of, and relations between action of pepsin and concentration of acid, (99) 1041
  perforation of, subacute, (36) 1640
  peristaltic movements of, and capacity of extension of fundus, (64) 174
  polyps in, (100) 348—ab
  protection of, against autodigestion, and antipepsin for treating gastric ulcer, (68) 1558—ab
  rinsing water and test meals, poisonous properties of, (50) 264
  secreting functions, influence of hydrogen dioxid on, (59) 1910—ab
  secretion after test meals, (61) 264
  secretion, influence of nutritive enemata on, *315
  secretion in old age, (43) 349—ab
  sensibility of, (91) 1649
  surgery, (54) 1822—ab
  syphilitic tumor in, (121) 178
  tests, functional, in diagnosis of ulcers of stomach, (70) 1114—ab
  tetany with chronic dilatation of, (82) 1114

Stomach, tuberculosis of, tuberculous cavities of liver, (142) 1111
  Ulcer of. See Gastric Ulcer
  uses of, (25) 531
Stomatology, educational requirements and opportunities in, *7
Stone. See Calculus
Stools and urine infant's home made apparatus for collecting, for research on metabolism, (64) 1400
  and urine, toxicity of, and intestinal putrefaction in infants fed on foods rich in albumin, (152) 559—ab
  character of and intestinal findings in diarrheal affections of infants *1206
  eggs of parasites in, facilitation of detection of, (61) 1193—ab
  fermentation in apparatus for determining, (168) 87
  indol in, and indican in urine, (67) 1114
  infant, curds in, (4) 72
  microchemical test for mucous in, (100) 2099—ab
  normal, proportions of constituents of, (69) 1114—ab
  occult blood in, and early diagnosis of organic gastrointestinal affections, (97) 83—ab
  occurrence of dissolved substances in, with increased peristalsis of intestines, (61) 1910
  urobilin in, in health and disease, (39) 1191
Stooping, interference with heart action by, (89) 265—ab
Stovain anesthesia, spinal, (82) 1287—ab, (6) 1820
  spinal, deaths after, (95) 1190—ab
  spinal, modifications in nervous system after, (70) 955—ab
Strain or relaxation of sacroiliac joint, conditon of, (125) 1734—ab
Streptococci, carbohydrate reactions of, (6) 870
  hemolytic, in puerperal infection, (59) 1113—ab
  hemolytic, virulent, differentiation of, (111) 1383—ab
Streptococcus, and pneumococcus infection, mixed, of orbit and adjacent sinuses, (111) 1905—ab
  infection in rabbit's ear, experimental hyperemia in, (100) 1913—ab
  infection, puerperal, treated with vaccine, (10) 871
  infection with typical Widal reaction, (63) 1109
Striæ atrophicæ as sequel of acute pneumonia, (23) 1190—ab
Stricture, cicatricial, excision of rectum for, with preservation of sphincter, (119) 1282—ab
  impassable of urethra, retrograde catheterization in surgical treatment of, (19) 167—ab
  of esophagus, (76) 792
Strictures in rectum (92) 632
Stridor, congenital laryngeal, apparently due to enlarged thymus, (135) 1188 (148) 1252
Strongyloides stercoralis, (64) 2003
Strophanthin, intravenous injection of, in degeneration of myocardium, (34) 2238—ab
  treatment intravenous, (67) 174—ab, (70) 1193
Strychnin, hypodermic use of, in paralyzed limbs (61) 1903
  poisoning, pilocarpin in, (129) 793
Student, postgraduate (50) 1903
Stump old amputation plastic resection to restore function to, (52) 1909—ab
Stumps weight bearing, Hirsch technic for, (49) 713
Stutterers in business and in court, (82) 955
Style operation for removal of, in nasal duct, (141) 1037
Styles, lead, treatment of strictures of nasal duct with, *1207
Subconscious, on trail of, (151) 1734
Suburethral abscess in women, (42) 797—ab
Suboxidation general from prolonged unremitting physical and mental effort, (45) 1374—ab
Success, psychology of, (1) 710
Sugar and salt solutions, infusion of, in infants, (66) 630—ab
  excretion in phloridzin glycosuria influence of cold and mechanical exercise on, (71) 350—ab
  grape, copper hydroxylamin test for, (111) 800
  in diabetes, laws regulating elimination of, (135) 634
  nervous control of production of, in animal body, (92) 1186
  production of, from glutamic acid ingested in phloridzin glycosuria, (72) 350
Sugar refineries, tuberculosis in employés of, (41) 712
  titration Bang's method for, (75) 261
  titration, rapid and precise determination of terminal reaction in, with Fehling's solution, (93) 1288—ab
Sugars of aromatic group, and animal organism, (82) 1191
Suggestion, adverse, (8) 166
  and hysteria, (35) 796
  in its physiologic bearings (20) 1111
Suicide during childbirth, (82) 799
Sulphonal, prolonged use and toxic action of, (41) 1902
Sulphates, ethereal, in urine in gastrointestinal autointoxication, (45) 1822—ab
  ethereal, in urine in pathologic conditions, (69) 1079
Sulphocarbolates in typhoid (101) 949
Sulphocyanates solvent action of, on lime and magnesium deposits in system (6) 621—ab
Sulphur baths, artificial, (97) 876
  neutral determination of, in urine, (72) 875
Summer complaint, (98) 2189
Sun's rays and artificial heat, classification of effects of, (49) 623—ab
  rays unmodified, in lupus vulgaris, (19) 1821—ab
Sunlight and solar therapy in tuberculosis, (77) 710
  excessive, dangers of, in tuberculosis (13) 1106—ab
  sterilizing action of, on hides 663—ab
Sunshine and bacteria, (120) 534
Suppuration antiferment treatment of, (70) 2193—ab
  chronic, above tympanum, conservative treatment of, (88) 799—ab
  contour and contents of epitympanum and, (58) 1280
  hyperemic treatment of, (69) 1286—ab
  in maxillary antrum, treatment of, (91) 1112 (18, 19) 1644
  of labyrinth, diagnosis and treatment of (141) 950
  of temporal bone bearing of on surgical anatomy of, on spread and cure of, (137) 1906
  of temporal bone, causation of, (139) 950
  of temporal bone, pathology and bacteriology of, (137) 950
  of temporal bone, treatment of, other than surgical, (60) 1280
Suppurations, acute, criticism of treatment of, by passive hyperemia and cupping, (26) 1640—ab
Suppurative processes antiferment treatment of, without incision (140) 359—ab
Suprarenal and pituitary extracts, inhibition of pancreatic activity by, (38) 1463—ab
  body, cystic tumor of, successfully removed by operation, (11) 353
  extracts, inhibition of pancreatic activity by, (43) 2002
  gland like openings in cortex of, (53) 1192
  capsules and rachitis, (134) 85—ab
  capsules, functions of, (2) 78, (11) 79
  capsules in puerperal eclampsia and pregnancy nephritis, (51) 81—ab
  extract in aortic insufficiency, (127) 450—ab
  preparations, in obstetrics, (53) 630—ab
  preparations in, osteomalacia, (70) 82, (138) 718
  products in blood and urine, determination of, (93) 358
  tissue, Croftan's method for differentiating, by biochemical tests, (107) 266
  tissue in kidney, experimental transplantation of, (55) 355—ab, (40) 2095—ab
  transplantation, *640
Suprarenals, acute insufficiency of, (20) 944
  and kidneys, (67) 875—ab
  hemorrhage in, (124) 634
  hemorrhage of, in infants, *1964
  hyperplasia of hypophysis, hypertrophy of heart, and arterial hypertension, (29) 796—ab
  in arteriosclerosis, histologic findings in, (106) 266
  influence of, on bony skeleton in relation to osteomalacia and rachitis, (7) 1377—ab
  lesions of, and chronic nephritis and arteriosclerosis, (23) 2089—ab
  primary tumors of in children, (35) 439
  secretion, (116) 359
  tuberculosis of, and congenital syphilis, (94) 176—ab
Supraspinous fossa, symptomatology of, the alarm zone in tuberculosis (53) 2007
Surgeon, conservative, and symptomless uterine fibroid, *972
  country, (67) 1465—ab
  necessity of being conservative as to operation, (151) 1820
  railroad, legal relations of, to railroad companies, (89) 793
  visiting North America, impressions of, (110) 877
Surgery, abdominal, thoroughness in, (85) 869
  accidents due to antiseptics in, (37) 953
  ancient, (115) 1377, (111) 1466
  and anatomy of peritoneum, (14) 865
  and medicine, evil tendencies of, (2) 2088—ab, (18) 2234—ab
  and medicine of Northwest, organization and centralization of, (67) 1109—ab
  and medicine, oxygen in, (137) 626—ab
  and medicine, recent advances in science and their bearing on, (1) 1553—ab
  and tabes, (32) 796—ab
  antiseptic, history of, (143) 78, (1, 10) 353—ab
  are gloves and masks advisable in? (31) 1107—ab
  aseptic, easy methods of carrying out principles of, (123) 170
  bone, motor for, (50) 1034
  cosmetic and plastic, of ear, (136) 1906
  debts which medical science owes to (172) 352—ab
  dental and major, nitrous oxid and oxygen in, *907
  general and disease of maxillary antrum, (43) 2007—ab
  importance in, of serodiagnosis of syphilis, (71) 2193
  in smaller cities, growth and development of, (3) 1105
  minor, ethyl chlorid as general anesthetic in, (51) 623
  modern, achievements of, (101) 1037, (5) 1549—ab
  modern and pathology, (30) 1462
  modern, in stomach disorders, (75) 792—ab
  modern, military, dawn of, (30) 167
  modern requirements of, (14) 1467
  of facial nerve, (134) 950
  of lungs bronchotomy and resection, (63) 2193—ab
  of lungs, intrapulmonary positive pressure in *803, *805, *808, (62, 64) 2193—ab
  plaster of Paris in, (170) 950
  plastic neglect of, about pelvic outlet, (57) 532—ab
  principles of, (31) 531, (32) 707, (133) 950, (29) 1278
  prophylaxis in, (1) 789—ab, (3) 794
  railway conservatism in, (127) 1820
  recent advances in, (27) 1190
  special and general, and diseases of maxillary antrum, (13) 1038
  technic of, without antiseptics, (15) 692
  when shall physician distrust his own judgment in? (62) 868—ab
Surgical affections, skin reaction to tuberculin in, (95) 358
  affections zinc gelatin dressings in (91) 2010—ab
  cases, general, at Fordham Hospital (10) 2000
  cases, importance of after treatment in (82) 1732
  cleanliness, excesses in, (22) 1107
  notes, (36) 1555
  outrages, (20) 1901
  pendulum, a plea for conservative surgery, (68) 2091
  rights of public, (1) 864—ab
  situation, (5) 1901—ab
Sutika, the puerperal diarrhea of Bengal, (5) 2005
Suture, circular, of brachial artery, (104) 1472
  intercutaneous, and buried catgut in plastic operations on perineum, (48) 531
  non absorbable, (40) 74
  of arteries, (44) 797
  of bladder, indications and results of, (46) 797
  primary, for bullet wounds of lung, (82) 1471—ab
  purse string, right and wrong application in appendicectomy, (103) 793
  re-enforcing, postoperative ileus from, (87) 1471
  rubber, intestinal anastomosis of mucosæ with, (138) 359—ab
Sweating, desquamation from, *1328
Swimming tank, menace of, (4) 255—ab
Sydenham method greater than method of laboratory, (24) 1462—ab
Symbiosis, influence of, on pathogenicity of micro organisms, (65) 532—ab
Symphyseotomy during pregnancy, (19) 1646—ab
  pubiotomy vs, (46) 1555
  subcutaneous, and extraperitoneal Cesarean section, (10) 1377
Symphysis and pubic bone, resection of, for removal of pelvic tumors, (65) 2193
Synchondrosis sacroiliac, arthrodesis of, (3) 789
Syncope, shock and collapse, (60) 1185
Syncytioma or chorioepithelioma of placenta, (29) 167—ab
Syncytium, functions and relations to toxemia of pregnancy and to cancer, (50) 947—ab
Syndrome, paroxysmal, probably allied to recurrent vomiting, (36) 2002—ab
Synovial fluid, artificial, (66) 441
  membrane, pathogenesis of ganglia, (45) 707—ab
  membrane, structure of, and absorption of joint content under variable mechanical influences, (67) 1648
  membrane, structure and development of, (45) 707—ab
Synovitis in youth with ichthyosis, leukemia complicated by, (30) 1378
  of knee joint as late manifestation of acquired syphilis, (6) 1901—ab
Syphilids, cutaneous diffusely disseminated in monkeys after inoculation in testicles, (58) 1823
  local injections of mercury in, (28) 172—ab
Syphilis, (30, 40) 349, (21) 444—ab, (18) 790 (94) 1552, (49) 1641—ab, (16) 1644—ab, *2031
  acquired, diffuse interstitial keratitis in, (113) 1905—ab
  acquired, synovitis of knee joint as late manifestation of, (6) 1901—ab
  Adams Stokes' syndrome in, (147) 1475—ab
  amputation of penis in (125) 626
  and dermatology, (80) 710, (95) 1281
  and general paralysis, precipitin reaction in, (72) 376
  and gonorrhea, drug action in, (66) 1552
  aneurism of heart due to gummata, (3) 1644
  antibodies in milk of women with, 1409—ab
  and parasyphilitic affections deviation of complement in, (153) 360
  and tabes, (131) 634—ab
  and yaws, comparative morphology of spirochetes of, (21) 944
  arsenic in, (64) 1193
  arthropathies of, (8) 1644
  as portrayed by Shakespeare, (117) 626
  atoxyl in, (119) 442
  cerebrospinal, diagnosis and treatment of, (97) 1036
  communicated in assault and battery, (4) 621
  complement binding substances in serum and urine in, (91) 83, *1142
  complement binding test for, (52) 2096—ab
  congenital, (136) 260
  congenital, and progressive paralysis (112) 1561—ab
  congenital, and tuberculosis of suprarenals, (94) 176—ab
  congenital, lack of connection of congenital deformities with, (69) 1380
  congenital, serodiagnosis in mothers of infants with, (84) 876—ab
  crises in, simulating surgical emergencies, (20) 1816
  cutaneous, diagnosis of, (58) 791—ab
  cutaneous serum reaction in (124) 178
  dyspnea of, (173) 171
  etiology of, (87) 793
  extragenitally acquired in early childhood, (8) 428—ab
  failure of calomel salve to protect against, (90) 176—ab
  findings in lymph gland in (166) 87
  hereditary, (139) 442, (60) 532—ab, (128) 1188
  hereditary, and infant feeding (153) 1475
  hereditary, aural manifestations, (40) 81—ab
  hereditary, brain findings in infants with, (80) 1912—ab

Syphilis, hereditary, buphthalmos, prenatal iridocyclitis, (128) 1188
  hereditary, fixation of complement in, (66) 1911—ab
  hereditary, juvenile paralysis from, (102) 1560
  hypodermic treatment of, (87) 259, (58) 1903
  jaundice due to, (173) 171
  in army, prophylaxis of, (54) 81
  in pregnancy and early infancy, (51) 1279
  in prehistoric Egyptians, (3) 1038
  in registered prostitutes, (111) 541—ab
  incubation in, (30) 2094—ab
  inhalation of mercury in, (114) 1289—ab
  insufflation of calomel in nose in, (79) 264
  intramural injections of salicylate of mercury in, (118) 793—ab
  keratitis, interstitial, in, *202 (17) 2186
  late. mercury in, *1954
  liver lesions from, and Malta fever, (115) 1914
  mineral waters in, (66) 1039—ab
  necrosis of skull in, showing easy way for removing such sequestra, (34) 872—ab
  nephritis, acute, due to, (17) 166
  neurasthenia due to, diagnosis and treatment, (19) 354
  of bone and joints, (57) 947—ab
  of liver, (36) 1033
  of liver, diagnosis of, (107) 1905
  of liver, protracted fever in, (66) 1193—ab
  of lungs, (147) 268—ab, (49) 1192—ab
  of nervous system, (30) 2186
  of uterus, late, diagnosis of, (148) 268—ab
  of uterus, late, and uterine cancer, diagnosis of, (148) 268—ab
  origin of, and invention of name, (1) 1729—ab
  osteochondritis, congenital, due to, simulating Erb's paralysis, (47) 2062
  paralysis and neuralgia of, (58) 81-ab
  paralysis, facial, due to, (29) 2186
  placental, (82) 2004—ab
  polioencephalitis due to, (36) 2091
  positive response to specific test for, *in non-syphilitic affections*, (116) 450
  precipitin reaction for serum diagnosis of, (113) 266
  prophylaxis by use of calomel ointment, (13) 1639
  quinin in, (111) 84—ab
  rebellious intestinal, hemorrhages in, complete exclusion of large intestine for, (85) 1471
  reinfection with, (25) 790—ab
  secondary, pathologic anatomy and microbiology of, grave jaundice in, (43) 1646
  serodiagnosis of, (174) 87—ab, *824, (18) 871, (83) 876—ab, (19) 944—ab, (48) 953—ab, (115) 1042, (121) 117—ab, (45) 1191, (83) 2010—ab, (109) 2011, (52) 2096, *2149, (71) 2193
  serodiagnosis of, and mental affections, (47) 1285-ab, (67) 2008-ab
  serodiagnosis of, comparison of alcoholic and watery extracts in, *2149
  serodiagnosis of, fat-spliting properties of syphilitic sera and importance of lipolysis for, (57) 797
  serodiagnosis of, in affections of aorta, and tabes, (87) 2194
  serodiagnosis of, in obstetrics, (70) 798—ab
  serodiagnosis of, with antigens from rabbits, (120) 878—ab
  serum of, *precipitation* with distilled water in, (117) 450
  serum test, and serum of scarlet fever patients, (67) 1470—ab
  severe diabetes due to, (63) 798
  sodium taurocholate for diagnosis of, (2) 1729
  spirochæta pallida and, (158) 171
  spirocæta pallida in diagnosis and treatment of, *1928, *2034
  tabes dorsalis and paralysis, (72) 1558—ab
  tertiary visceral, intermittent or prolonged fever with, 60) 1193-ab
  treatment of, (61) 76, (14) 2006
  tumor in stomach due to, (121) 178
  unreliability of complement-binding *reaction for diagnosis* in, (99) 715
  unreliability of serum diagnosis of, with urine, (47) 953
  yellow atrophy in, (72) 539
Syphilitics, tuberculosis in, evolution *and treatment* of, (43) 1822—ab
Syphiloma of uvea, (46) 1737
Syringe for removal of foreign bodies and plugs from ears, (63) 1193
  glass hypodermic, method of removing plunger from, *572
Syringomyelia, (10) 2088
  and dystrophy, (91) 1913—ab
  with bulbar symptoms, (102) 1041
  with hydrocephalus, *1933
Systole of auricle, (141) 1743

T

Tabes-dorsalis, (4) 2000
  and paresis, relation of, (7) 255—ab
  and pseudotabes, diagnosis of, (115) 949
  and *general paralysis, pathology* and treatment of, (4) 2093—ab
  and surgery, (32) 796—ab
  and *syphilis*, (131) 634—*ab*
  arterial pressure in, and its modification under influence of gastric crises and lightning pains, (53) 1738—ab
  eye crises in, (118) 1474—ab
  improvement of peripheral centripetal neuron in, by Frenkel's exercise-therapy, (81) 955—ab
  lancinating pains in head in, (106) 1913—ab
  laryngeal crises and paresis of abductors of vocal cords as important early symptoms of, *815
  mercury in, (128) 1290—ab
  paralysis and syphilis, (72) 1558—ab
  pathogenesis of, (57) 440—ab, (35) 866—ab, (35) 1378—ab
  serodiagnosis of syphilis in, (87) 2194
  spinal and cerebral, early diagnosis of, (130) 1731
  treatment of, *1915
Table, and instrument sterilizer combined, (120) 177
  operating, (6) 1734
Tachycardia, exophthalmos and tremor following extirpation of tuberculous glands in neck, (27) 2186
  paroxysmal, (122) 1914
  paroxysmal, abortion of attack, (112) 177
  paroxysmal, auricular fibrillation and *auriculoventricular extrasystoles*, (81) 2004
Tact in practice of medicine, (60) 168
Tail-like formations and congenital lipoma in man, (122) 634
Taint in miscured hams, nature and causes of, (5) 353—ab
Talipes, technic of tarsectomy for, (13) 1554
Talladega, epidemic of jaundice in, (156) 78
Tapeworm, ileocolitis in boy of three complicated by, (111) 1282
  treatment of, (23) 872—ab
Tar and asphalt workers' epithelioma and chimney-sweeps' cancer, (22) 1038
Tarsectomy retaining calcaneum, (72) 1039
  technic of, for talipes, (13) 1554
Taste and smell, cerebral centers for, and for uncinate group of fits, *879
Tea and coffee poisoning, (46) 349
Teacher, physician as, (102) 534
Teachers, *training of*, in personal and school hygiene, (12) 871
Tears, *action of, on bacteria*, (100) 1196
Technic, aseptic for appendicectomy, (76) 2004
Teeth, and anatomic and pathologic conditions of maxillary antrum, (44) 2007—ab
  deformities of, (147) 870
  permanent, rachitic erosions of, with lamellar cataract, *1130
  trigeminal neuralgia from changes in, (121) 266—ab
Teething and its alleged troubles, (14) 1038
Telangiectases, multiple, (36) 1907
  of tendon, traumatic focal, (5) 437
Teleradiography, value of, in diagnosis, (13) 1283
Telephone and motor car, axis traction forceps vs., (34) 1555—ab
  girls, occupational accidents of, (51) 953
Temperance instruction, needs of, (48) 1185
  pioneers in medical profession and their work for last century, (91) 1466
Temperature coefficient of velocities of various physiologic actions, (49) 1108
  coefficient of velocity of nerve condition, (73) 350—ab
  differences in, in axillæ in acute appendicitis, (62) 1193—ab
Temperature, external, influence of, on experimental glycosuria, (128) 631
  in healthy and sick infants, daily variations in, (96) 1116—ab
  influence of, and other physical conditions of calf vaccine, (30) 2190
  influence of, on solubility of casein, in alkaline solutions, (42) 1731
  unilateral *higher, occurrence and significance of, in lung affections*, (102) 1650—ab
Tenaculum, uterine, *1695
Tenderness in ciliary region, diagnostic value of, (63) 441
Tendon sheaths, diffuse giant-celled sarcoma of, (75) 2193
  sheaths of foot and tendovaginitis and perimysiitis crepitans, (76) 2193
  transplantation, (65) 1823
  traumatic focal telangiectasis of, (5) 437
Tendons, suture of, (86) 876—ab
Tendovaginitis and perimysiitis crepitans in relation to tendon sheaths of foot, (76) 2193
Tenia echinococcus, (20) 1278
Tenotomy of psoas magnus, psoas parvus and iliacus in spastic spinal paralysis in adult, (103) 1826-ab
Tension, arterial and capillary, in arteriosclerosis, (58) 1286
  increased intracranial, treatment of, (34) 354
Tents and drains, intrauterine, (96) 716—ab
  dispensing with, (125) 1828—ab
  laminaria, removal of, from cervical canal, (146) 360
Teratomas, solid, of ovary, (145) 1744—ab
Test: See also Tests
  agglutination, simple typhoid, (53) 1374—ab
  biuret, for pepsin in stomach content, (169) 87
  Cammidge's illustration of crystals of pancreatic reaction according to, (5) 2000
  complement-binding, in leprosy, (171) 87
  complement-binding in meningitis, (93) 2010
  complement deviation, in typhoid, (62) 1380
  copper-hydroxylamin, for grape sugar, (111) 800
  Drigalski-Conradi litmus-lactose agar, modification of, for isolation of B. typhosus, (11) 622
  Edestin, for pepsin, (92) 83
  ferricyanid, for gas in blood, (99) 83
  meal, importance of chemical examination of stomach contents after, (3) 710—ab
  meal removal and gastric lavage, device for facilitating, *673
  meals and stomach rinsing water, poisonous properties of, (50) 264
  meals, stomach secretion *after*, (61) 264
  musculo-precipitin, forensic value of, (115) 869
  neutral-red soup, of stomach functioning, (82) 1381—ab
  phloridzin, of kidney functioning, (110) 177—ab
  precipitin, for biologic research on feces, (110) 2011
  Rivalta's, differentiation of exudates from transudates by, (94) 956—ab
  simple typhoid agglutination, (53) 1374—ab
  tube and miscroscope, value of, in diagnosis, (57) 350
  type charts, method of illuminating, with *artificial light, (177)* 171
  vaccine, by subcutaneous injection, (160) 86
Testicle, adenoma of, non-existence of, (35) 173
  and epididymis, indirect treatment of disease of, (20) 1554
  and prostate, gout of, (94) 265
  cancer of, condition of glands in, (42) 873—ab
  faulty descent of, (89) 948
  normal, spontaneous torsion of, (51) 1738
  tuberculosis of, (65) 441
  tuberculosis of, diagnosis and indications for operation, (58) 867—ab
  undescended, operation for, (30) 952—ab, (33) 1038, (32) 1372—ab
  undescended with inguinal hernia, treatment of, (31) 1372—ab
Testicles, anatomic action of x-rays on, (95) 1288
  descending, (17) 261
  inoculation in, diffusely disseminated cutaneous syphilids in monkeys after, (58) 1823
Testicles, interstitial cells in, (95) 1913
  translocation of, (103) 1377—ab
Testimony, expert, and medical jurisprudence and eye, ear, nose and throat, (111) 1377
  expert, medical, a delusion, (137) 1188
  expert medical, medicolegal case involving x-ray testimony and its bearing on proposal to regulate, (53) 1034
  expert medical, present status of, *on insanity, plea for corrective* legislation, (93) 1552
Tests, application of, to deaf mutes, (21) 1644
  Barany's, application of, to deaf mutes, (41) 2007—ab
  clinical, biochemical reactions as, (112) 266
  functional, and training of heart, apparatus for, (74) 356
  physiologic, of drugs, (72) 261
Tetanus, (33) 1112
  antitoxin treatment of, (36) 173—ab, (37) 537, (54) 1113, (92) 1649
  cholesterin in, (137) 1734
  influenzal encephalitis simulating, (83) 176
  Kernig's sign in, (65) 1380
  local, (80) 447
  magnesium sulphate in, (15) 530—ab
  prevention and treatment, (131) 950, (134) 1553—ab
  treatment of, (52) 355—ab, (114) 1651—ab
  toxin, attraction of, to lipoid substances, (52) 355—ab
Tetany, (138) 1111
  and autopsy findings, (84) 1912—ab
  and pregnancy, (113) 877—ab
  experimental, after parathyroidectomy; enhanced susceptibility of *offspring*, (83) 632
  familial, (136) 1474—ab
  following phosphorus intoxication, (137) 1474
  fo[illegible] cured by [illegible] of para[illegible] 1033
  in adult, (13) 535
  in infant four days old, *755
  suppurative cerebrospinal meningitis in infants simulating, (31) 173
  with chronic dilatation of stomach, (82) 1114
Texas, progress of medicine in, (97) 259—ab
  state board of medical examiners, work done by, (94) 793
  state health department, work done by, (92) 793
  vital statistics laws of, imperfections and possible remedy, (91) 793
Therapeutic applications of radium emanations, (102) 632
  measures, variations in *calcium* content of blood following, (28) 945
  observations, *1490
  pessimism, (105) 1904
  prejudices, (147) 1906
Therapeutics, (119) 534—ab
  and diagnosis, hold fast to that which is good in, (61) 1732
  and diagnosis, lumbar puncture in, *1566
  and pharmacology, necessity of added emphasis in teaching of, (25) 623
  homogeneous radiation in, (60) 954
  in light of ecology, (130) 260
  of self-repair, (49) 708—ab
  physical, (32) 1902—ab
  physical, importance and value of, (80) 625
Therapy, old, passing of, (83) 1904
  pathology and *anatomy* of chronic endometritis, (58) 2193—ab
  plea for more exact, (25) 1372
Thigh, fractures of, improved Hodgen splint for, (37) 167—ab
Thimble and dissector for surgeons, *40
Thomsen's disease, study of, by sufferer from, (57) 2091—ab
Thoracic and abdominal diseases, inter-relations of, (21) 351
  duct, possibility and importance of retrograde lymph *current from*, (94) 876
Thoracopagus, tetrabrachius, case of, (57) 1113
Thoracostomy in heart disease, (2) 442—ab
Thoracotomy and pericardiotomy, for wounds of heart, recent advances in technic of, (52) 1031
  when to perform in empyema, (125) 1820
Thorax and abdomen, access to wounds involving, (52) 1285—ab
  [illegible] matory condi[illegible] *from appen*[illegible] [illegible]) 441—ab

Thorax and abdomen interrelations of diseases of, (18) 444—ab
  and abdomen penetrating wound of, (81) 625—ab
  and its viscera, diseases of, (97) 1281
  apparatus for artificial respiration after opening (110) 2138—ab
  empyema of, Henry's rubber drainage spool for, (62) 1642
  new growths of, (1) 870—ab
  [illegible] cyrtometer tracing showing changes in shape of, (21) 795—ab
  restoration of balance in regard to space in, after extirpation of one lung (34) 1909
  rigidity of, emphysema from, chondrectomy for, (51) 797
  stab wounds of, from criminal point of view, (150) 1475
  surgery of, *807 *805 *808, (64) 2195—ab
  total mobilization of wall of and release of lung, in unilateral pulmonary tuberculosis (53) 1909—ab
  x-ray inspection of, in dyspneic patients (65) 874—ab
Threadworm parasitic in swim bladder of trout Cystidicola farionis, Fischer, (52) 1079
Throat acute inflammations of, local treatment of, (4) 165
  affection, chronic diphtheroid, (59) 174
  and nose examination, (15) 2006
  and nose work in Vienna, (110) 1773
  and nose work, recent advancements in through bacteriotherapy, (68) 1772
  disease lactic acid bacilli cultures in, (18) 748
  eye ear and nose conditions faulty, effect of, on mental development of school children, (88) 11[illegible]
  eye nose and accessory cavities, diseases of, (77) 1471—ab
  nose and ear complications of infectious diseases (65) 2188
  nose and ear diseases climate of north and northwest in etiologic and therapeutic relation to, (102) 1552
  nose, eye and ear, expert testimony and medical jurisprudence as relating to, (111) 1377
  pulsating vessels in, (133) 1117
  removal of diseased tonsils and adenoids to rid it of diphtheria bacilli, (66) 1280
  tuberculosis of, inoculation treatment, (55) 80
Thromboangiitis obliterans, (40) 1902—ab
Thrombophlebitis and puerperal peritonitis operative treatment of, (48) 630—ab
Thrombosis and embolism warning symptoms of, (145) 1043—ab
  and cerebral and ocular complications of anemia (26) 1373—ab
  brachial, causing ischemic contracture with secondary ulnar neuritis *2059
  cerebral, pathogenesis of, (73) 1186
  cavernous sinus, fatal following chronic purulent otitis (34) 537
  cavernous sinus septic, following radical mastoid operation on seventh day, (40) 1646
  embolism, postoperative, (59) 355—ab
  jugular, double mastoiditis and sigmoid sinus, (85) 1552
  of cavernous sinus, septic, (32) 946, (162) 1189
  of lateral sinus, (12) 353
  of lateral sinus, and cerebellar abscess, (122) 1377
  of lateral sinus and internal jugular vein following suppurative mastoiditis, (68) 624
  of otitic sinus, and pyemia, (92) 1552
  of sigmoid sinus and internal jugular vein of otitic origin, operation for, (135) 950
  of sinus complicating mastoiditis, (140) 950
  of superior longitudinal and lateral sinuses complicated by pregnancy, *707
  prophylaxis of, (124) 1827—ab
  portal, etiology of, (103) 266, (119) 450—ab
  sinus, diagnosis and treatment, (103) 1819
  sinus, following removal of granulation tissue from middle ear, excision of internal jugular vein, (88) 1552
  traumatic venous (51) 1464
  venous and hydrocele of inguinal canal, (44) 1035
Thrombus do not remove, (90) 1552
Thuringia, quack remedies made in, (108) [illegible]
Thymin, action of diazobenzene sulfonic acid on (43) 17[illegible]1
Thymus and asthma, (1[illegible]0) [illegible]0—ab
  and exophthalmic goiter, (63) [illegible]—ab
  death mechanism (83) 2104—ab
  enlarged, congenital laryngeal stridor apparently due to, (195) 1188, (148) 1282
  enlarged with three lobes death of infant with (66) 792
  function of, (21) 952—ab
  hyperplasia of, in Addison's disease, (105) 877
  involution of (146) 1741—ab
  involution of in rabbits (119) 80[illegible]
  persisting, importance of in exophthalmic goiter (111) 1289—ab
  treatment of disturbances in growth, (129) 1[illegible]0—ab
Thyroid accessory, at base of tongue (1[illegible]) 78
  accessory intratracheal papilloma of (46) 115
  adenoma of, (141) 1774
  and iodin (25) 73—ab
  and lymphatic system (12[illegible]) 260
  and mental disease, ([illegible]5) 5[illegible]1
  and parathyroid, *25
  and parathyroids, anatomy of, ([illegible]2) [illegible]71
  changes in pituitary body after removal of, (18) 1111
  disease (78) 947
  feeding and complete thyroidectomy, influence of, on certain phases of intermediary metabolism, (48) 1731—ab
  extract in epilepsy and migraine, (78) 625—ab
  malignant tumor of, ([illegible]1) 1273
  preparations, commercial and suggestions as to standardization of thyroid, *1387
  preparations action of, (63) 1470—ab
  rheumatism, (44) 713—ab
  surgery of and psychic factor in exophthalmic goiter, (75) 137[illegible]—ab
  transplantation of, (61) 1286—ab
Thyroidectomy complete and thyroid feeding, influence of, on certain phases of intermediary metabolism (48) 1731—ab
  partial, in exophthalmic goiter, (89) 1110—ab
  results of (95) 1619
  tetany following cured by subcutaneous injection of parathyroid emulsion (72) 102[illegible]
Thyroidism and exophthalmic goiter, blood findings in, (70) 155[illegible]—ab
Thyroiditis, acute, non-suppurating, (89) 1381—ab, (105) 1826—ab
Tibia and calcaneum, amputation above malleolus with, osteoplastic operation on, (46) 1822
  and fibula, compound comminuted fracture of, treatment *2057
  fracture of lower epiphysis of, (3) 1460
  fracture of spine of, (67) 441
  tubercle of, incomplete laceration fracture of, or defective growth? (52) 18[illegible]2
Tick fever, African, diagnosis of, by examination of blood, (33) 1185—ab
Tinea favus pilaris, (74) 1642
  imbricata and treatment, (117) 1188
  intersecta, (118) 1188
Tinnitus and severe vertigo, destruction of labyrinth cure, (31) 1378
  painful, division of auditory nerve for, (26) 1645—ab
Tissue, embryonal, implantation of, (115) 359
Tissues, pigmented improved method of bleaching, (125) 1282
  viability of proteolytic enzymes in, (105) 869
Tobacco and eyes, (70) 76—ab
  and heart, (71) 76—ab
  and nerves (72) 76
  question, (50) 349—ab
Toe reflex, Bechterew's flexion, (88) 1288
Tongue, abscess on, operation, (59) 175
  accessory thyroid at base of, (139) 78
  amyloid tumors of, (108) 1741
  and mouth, cancer of, (30) 1730—ab
  black hairy, (91) 2092—ab
  carcinoma of, excision for, (74) 76
  cases, (138) 78
  tumor on frenum of, in infants, (89) 1649
Tonometer, application of, (134) 1743
Tonsil See also Tonsils
  and adenoid operations, results in, (11) 1277
Tonsil, anesthesia in and status lymphaticus, (65) 1185—ab, (105) 1752
  and systemic infection, (181) 171
  anthrax of, primary, fatal (107) 1041
  applied anatomy of (10) 1277—ab
  chronically inflamed tissue, importance of diagnosis and treatment, (152) 86—ab
  excision of, (6) 951
  faucial, severe primary hemorrhage following removal of, (94) 441
  faucial tuberculosis of, (98) 2005—ab (68) 2188
  forceps (154) 171, *1096
  from evolutionary point of view, (10) 706
  of dog, peculiar cells in and probable significance, (95) 131[illegible]
  sarcoma of, ([illegible]) 621
  submerged, and cervical adenitis and systemic infections, (76) 710
  tuberculosis of, (140) 78
Tonsillar ring and paranasal sinuses as portals of entry of infectious diseases (87) 2004
Tonsillectomy and adenoidectomy, technic of, (1[illegible]2) 10[illegible]7—ab
  and its necessity, (84) 1281
  anesthesia local in (66) 1185—ab
  hemorrhage following, with cold wire snare (93) 441
  improved instruments for, (154) 171, (41) 173
  painless and adenectomy with quinin anesthesia, *[illegible]96
  technic of (80) 1619, (87) 2004
Tonsillitis ([illegible]2) [illegible]49 (88) 118[illegible]
  acute followed by poliomyelitis, (4) 1[illegible]49
  follicular local use of acetylsalicylic acid in (59) 2185
  hemorrhage after necessitating ligature of common carotid, (45) 81
  pyocyanase in, (91) 1288—ab
Tonsils anatomy and surgery of, (24) 1467
  and adenoids, diseased, pathology and treatment of, (104) 352—ab
  and adenoids diseased removal of to rid throat of diphtheria bacilli, (66) 1280
  and adenoids diseased why they should be removed, (175) 1820
  and adenoids, surgical treatment of, (104) 1187
  and general health, (3) 705
  diseased total extirpation of, (113) 234
  faucial, (108) 1037
  faucial, chondroma and osteoma in, (142) 950
  faucial removal of (55) 1034
  faucial, removal of, for catarrhal deafness, (61) 624
  faucial anatomy physiology and removal, (113) 793
  faucial hypertrophied, and adenoids, etiologic factors in backward children (69) 441, (87) 869
  operations on dread of, (107) 1560
  treatment of hemorrhage after operation on (124) 534
  unhealthy, cause of influenza, (86) 1110
Toothache, conservative treatment of, (149) 171
Torticollis and asymmetry of face and skull, (83) 1194
  from inflammatory retraction of sternomastoid muscle, (54) 1380
  spasmodic, section of posterior primary divisions of upper cervical nerves in, (14) 1554
  treated by lengthening sternomastoid, (24) 1190—ab
Touch, sense of, value of, in operating, (95) 1560—ab
Toxemia, fatal, after administration of chloroform, (7) 1282
  from standpoint of perverted metabolism, (43) 167, (18) 1184—ab
  headaches due to, (66) 1035
  hepatic, fatal acetonemia, (141) 534
  in infant simulating cerebral hemorrhage, *1232
  obstetric, septic and anesthetic, *741
  of pregnancy, (182) 171, (40) 1284—ab, (62) 1552, (58) 1818—ab, (36) 1902, (30) 2006, (61) 2091
  of pregnancy and cancer, functions and relations of syncytium to, (50) 947—ab
Toxin and antitoxin of dysentery bacilli, (67) 954
  eclampsia, attempt to determine by experiment, (177) 359—ab
Toxins and endotoxins (115) 450
  antiseptic and germicidal properties of formaldehyd and their actions on, (79) 1466
  bacterial, negative results of attempt to induce endocarditis with (97) 956
Toxins bacterial, neutralization of, (59) 14[illegible]9
Toxogenins and anaphylaxis ([illegible]2) 712
Trachea and stomach, foreign bodies in, (11) 1549
  circular resection of, method of suturing, (72) 20[illegible]7
  diverticula in, (110) 20[illegible]
  esophagus and stomach direct inspection of, (15) 2186
  fibroma of, (132) 78, ([illegible]9) 440
  larynx and esophagus direct examination of, (25) 1467, ([illegible]) 2005
  of child removal of grain of corn from, (107) 1552
  or larynx, laryngostomy and tracheolaryngostomy in severe chronic stenosis of, (59) 10[illegible]9
  or larynx stenosis of laryngostomy and tracheolaryngostomy in cure of, (50) 1[illegible]80
Tracheobronchoscopy, (24) [illegible]48 (178) 951
  esophagoscopy and gastroscopy (24) 4[illegible]9 (19) 622
Tracheolaryngostomy and laryngostomy for stenosis of larynx or trachea, (35) 537, (59) 10[illegible]9, (50) 1[illegible]80
Tracheotomy, ultimate results of, (86) 5[illegible]9—ab
Trachoma, (86) 259, (103) 1904
  etiology, prevention, pathology, treatment and cure of (99) 1466
  picric acid in, (142) 268
  surgical treatment of, (64) 441
  symptoms, cause and differential diagnosis, (93) 1819
  treatment of, ([illegible]3) 9[illegible]2 (86) 10[illegible]6
Traction diverticulum of esophagus, pathogenesis of, (97) 26[illegible]
Trade importance of learning one in army, (16) 871
Traditions of medicine, unreasonable, (18) 707—ab
Training, a prophylaxis for nervous ills, (82) 351
  for anesthetists, necessity for better, (74) 1380
Transfusion adaptability of donor's to receiver's blood in, (53) 947—ab
  orthodiagraphic, apparatus for (72) 1380
  modified cannula for, according to Crile, (105) 2099
  venous after expulsion of blood, local anesthesia of limb by, (81) 1040—ab
Transillumination of orbit from nasopharynx examination of fundus of eye by, ((76) 356—ab
Transplantation of blood vessels and organs permanent results of, (79) 2194—ab
  of blood vessels, organs and limbs, *1662
  of new growths or animals appearance of heteroplastic tumors in, (5) 865
  of vessels and anastomosis (141) 268
Transportation of disabled soldiers on regulation litter, using a mounted soldier's equipment, (122) 950
Transudates and exudates, differentiation of, (121) 1384
  and exudates, differentiation of, by Rivalta test, (137) 718—ab (94) 956—ab
Trauma anatomic findings in epilepsy after, (99) 1472—ab
  and abnormal mentality, (73) 76
  and appendicitis, (68) 264 (78) 1040, (83) 1110—ab
  arrest of hepatic hemorrhage due to, (34) 1731—ab
  and spinal cord tumor, (139) 170
  non penetrating, intracranial, operation for, (34) 790—ab
  of brain, (74) 1818—ab
  slight, of joints clinical and medicolegal significance of, *2211
Traumatisms, indications for immediate operation following, (65) 1642
  of biliary passage operative treatment of, (51) 1285—ab
  severe, and fractures, (55) 257—ab
Travel observations, (145) 870
Travels, southern, (64) 165
Treatment case, ophthalmic, pocket emergency, *1010
  drug versus osteopathic *2135
  extension, technic of, (98) 153[illegible]
  medicinal, of disease, sufficiency of official drugs and preparations in *1477
  open air, (10) 944
  prophylaxis [illegible], (4) 19[illegible]
Tremor, ergographic study of, (123) 1290, (60) 1470
  tachycardia and exophthalmos following extirpation of tuberculous glands in neck, (27) 21[illegible]3
Trephining, palliative for cracked disc, (113) 1473—ab

Treponema-pallidum, diagnostic importance of, (155) 1188
  See also Spirochæta pallida
  secondary propagation of, and necessity for arresting tryponema en route, (45) 873
Treponema pertenuis of yaws and production of disease in monkeys, (123) 950—ab, (108) 1187—ab
Trial case, new, (133) 1037
Trichiasis, (105) 169
  treatment of, (33) 946—ab
Trichinelia spiralis, microscopic anatomy of, (48) 1903
Trichinosis, (109) 78
  and eosinophilia, (110) 78—ab
  sporadic: diagnosis of, (59) 947, (4) 2088
Tricuspid incompetency and compensation, (132) 267
Trinidad and Venezuela, spread of plague in, (17) 706
Triplet pregnancy and site of placenta, (91) 956
Tronchin, Theodore, (1) 255
Trophic lesions occurring symmetrically on extremities, (8) 2234
Tropical diseases and Mississippi valley, (20) 1550—ab
  medicine, Porto Rico as a field for research in, (16) 166
Tropics, health in, (26) 712—ab
  lymphatic diseases in, (20) 1906
  mosquito destruction in, *2203
Trout, threadworm parasitic in swim-bladder of, Cystidicola farionis, Fischer, (52) 1039
Trunk and abdomen, body elevator and support for operations on, *126
  does weight of, influence shape of pelvis? (114) 1117
Trypanocides and atoxyl, comparison of, (43) 1039
Trypanosoma lewisi, life history of, (39) 1038
Trypanosome affections, acidity and alkalinity of blood in, (41) 1038—ab
  infection and complement binding, (104) 1041
  toxin and resulting parenchymatous keratitis, (74) 1911
Trypanosomes, *effects of therapeutic* agents on, (40) 1038
  resistance of, to atoxyl, (80) 539
Trypanosomiasis, experimental, complement-binding in, (176) 87
  experimental, disappearance of complement in, (106) 1741
  gland palpation in diagnosis of, (34) 1038
  incidence and prophylaxis of, in Northeastern Rhodesia, (26) 537
  microscopic diagnosis of, (35) 712
  non-specific disappearance of opsonin in serum of animals with, (113) 1741
  of domestic stock in northwestern Rhodesia, (27) 537
  report of commission sent to Senegal to study, (60) 1039
Trypsin, antitryptic power of blood serum in cancer, (89) 83—ab
Tube, tracheal, with device to protect physician against coughed out material, (74) 1287
Tubercle-Bacilli: See Bacilli.
Tubercle, solitary, found in optic thalamus in hemichorea, (152) 1475
Tuberculids and lupus erythematodes, (109) 1116
Tuberculin, absorption of, from vagina, (125) 1742—ab
  administration of, in pulmonary tuberculosis, (3) 1906—ab
  and phlyctenular eye affections, (103) 1383—ab
  antibodies in tuberculous serum that in connection with, bind complement, (58) 1193
  as adjunct to home treatment of phthisis, (7) 1031—ab
  Béraneck's, and tuberculol, (63) 1910
  cutaneous and percutaneous reaction in adults, importance of, (147) 86
  cutaneous reaction, (22) 348, (91) 540—ab, (103) 541, (79) 710, (62) 791, (49) 873—ab, (47) 1192—ab, (93) 1472, (110, 112) 1741—ab, *1756
  cutaneous, reaction, and subcutaneous, (104) 1383
  cutaneous reaction, in children and infants, (91) 540—ab, (103) 541, (62) 791, (94) 1559, (82) 1912—ab
  cutaneous reaction, in measles, (61) 798—ab
  cutaneous reaction, in surgical affections, (95) 358
Tuberculin cutaneous reaction, with tubercle bacilli substance precipitated with iron, (72) 631
  diagnostic and therapeutic use of, (8) 530—ab
  diagnostic and therapeutic value of, in tuberculous eye disease, (121) 1282
  experimental reasearch on reaction to, (100) 83—ab
  fat-free, diagnostic inoculation with, (107) 449
  immunity, (87) 1912—ab
  immunization, treatment and prevention of tuberculosis by, (53) 791—ab, (123) 1188—ab
  in diagnosis and treatment of tuberculosis, (23) (89) 1904
  in diagnosis of pulmonary tuberculosis, (2) 1105—ab
  in dysmenorrhea and amenorrhea, (117) 2012—ab
  in genitourinary tuberculosis, (37) 80
  in orthopedics, (114) 1553—ab
  in pulmonary tuberculosis, (26) 348—ab, (64) 874—ab, (156) 950, (97) 1382—ab
  injections, repeated, effect on lymphatic organs, (11) 1031
  inunction, (12) 166—ab
  ocular and cutaneous reactions, (22) 348
  ocular cytoreaction, beginning of, (121) 1042
  ocular reaction, (130) 78, (68) 82—ab, (170) 87, (13, 14) 166, (22) 348, (58) 350—ab, (114) 352, (30) 354, (16) 438—ab, (30) 537, (88, 90,) 540—ab, (115) 634, (32) 639—ab, (120) 870, (107, 108) 877, (17) 952, (95) 956, (8, 9, 10) 1031, (102, 147) 1037, (55) 1039, (41) 1112, (86) 1115, (93) 1195, (99) 1196, (82) 1376—ab, (84) 1381, (104) 1644, (118) 1651, (20) 1736, *1756, (28) 1816—ab, (69) 1818, *1836, (88) 1904
  ocular reaction and allergy test, (87) 176
  ocular reaction, cytologic findings in, (74) 264—ab
  ocular reaction, dangers of, (90) 447, (109) 717—ab, (11) 871—ab, (141) 1043, (98) 2011—ab
  ocular reaction in cattle, (22) 1184
  ocular reaction, in guinea-pigs, infected with human, bovine, or avian tubercle bacilli, (16) 1901—ab
  old, absence of reaction to, in persons free from tuberculosis (63) 264—ab
  reaction and nervous system, (97) 1650—ab
  percutaneous reaction, (108) 717. (49) 873—ab
  reaction and complement-binding tuberculosis antibodies, (67) 630
  reaction, intradermal, (48) 2007—ab
  reaction, local, in diagnosis, (68) 1470—ab
  reaction, pathologic importance of, (114) 717
  reaction, rôle of antibodies in, (116) 717
  Reaction, v. Pirquets': See Tuberculin *cutaneous reaction*
  reactions, cutaneous and ocular, results of, (47) 1192—ab
  reactions, diagnostic utilization of, (158) 1475—ab
  reactions in children, comparative diagnostic importance of, (111) 1741—ab
  reactions, specificity of, (75) 875
  salve in differentiation and treatment of lupus, (61) 174—ab
  salve reaction, Moro's, (76) 1558
  significance of binding of complement for theory of action of, (107) 1383
  temporary improvement in leukemia under, (70) 174—ab
  therapy, new points of view in, (62) 874—ab
  treatment for other than pulmonary tuberculosis, (3) 944
  treatment, importance of *opsonins* in, (108) 2011
  treatment, improved technic for, (80) 1194
  urethral reaction, (105) 1383—ab
Tuberculol and Béraneck's tuberculin, (63) 1910
Tuberculo-opsonic index, *1756
Tuberculosis, (28) 444—ab, (130) 717—ab, (29) 872, (69) 948, (92) 1281, (3) 2233—ab
  acute, simulating typhoid, (55) 1113—ab, (46) 1908—ab
Tuberculosis, administrative treatment of, (9) 1111—ab
  air baths in, (101) 1560
  alarm zone in, (53) 2007
  and cancer, descendants of persons who have died of, (100) 1382—ab
  and cancer, hemolysis in, *2036
  and diphtheria, hematopoietic organs in, eosinophilic cell as occurring in, (101) 869
  and heart disease in relation to pregnancy, (79) 2091
  and human and bovne tubercle bacilli, (81) 2194—ab
  and infectious diseases, deviation of complement with tubercle bacilli derivatives as antigen in, (106) 1383
  and insanity, inheritance of, (19) 628
  and lobule of ear, (108) 177
  and orthotic albuminuria, (31) 349-ab
  and poverty, (21) 2001
  and septic conditions of kidney, (40) 791—ab
  and tubercle bacilli in man and cattle, (56) 2096—ab
  and tumor, in same organ, (124) 1474
  anemia, secondary of, treated with hypodermics of iron, (9) 1461
  animal, what shall we do with? (68) 1375
  antibodies and immunity, (67) 630, (58) 1193, (100) 1650
  apical, chondrotomy for, (73) 1911-ab
  apical, laws regulating development of secondary affections with, (78) 1825—ab
  apparently cured by accidental inhalation of lime dust, (54) 1817
  articular rheumatism due to, (101) 1741—ab
  as state problem, (54) 2090
  at high altitude, *blood pressure in*, (18) 944—ab
  at what age periods and in what *measure* has reduction of mortality rate from manifested itself in New York City during past 40 years? (13) 2088
  attitude of physician to patient in, (116) 78—ab
  beginning of ocular tuberculin cytoreaction in, (121) 1042
  bone, blastomycosis resembling, (117) 1553—ab
  bovine, (130) 1644
  bovine, and certified milk, (143) 1906
  cause of failure in treatment of, (19) 1901
  causing hypertrophies of bones and joints, (47) 1822
  chronic endocarditis due to, with tubercle bacilli, (58) 1738
  class, Troy, report of, (102) 1187
  climate as factor in, (167) 950, (76) 1186
  clinical forms of hemoptysis in, (17) 628
  communicability of, (128) 1644
  comparative pathology of, (82) 2009—ab
  complement-binding antibodies in, (123) 2197
  complicating pregnancy, (23) 439, (18) 622
  coordination of preventive measures, (15) 1639—ab, (7) 1735—ab
  crusade, (153) 1188, (112) 1733
  crusade in New York City, (9) 1639—ab
  Cuguillère's serum in, (14) 1278
  cutaneous, x-ray in, (27) 261—ab
  dangers of excessive sunlight in, (13) 1106—ab
  diagnosis and treatment of, (122) 78
  diagnosis of, early, (76) 1552
  diagnosis, prognosis and treatment of joints in, (86) 1819
  diet in, (75) 1186
  early and malaria, differentiation of, (11) 1371
  early positive diagnosis of, and tuberculin in diagnosis and treatment, (89) 1904
  eastern, and Colorado, (17) 622
  educational campaign, universities and colleges as factors in, *(92)* 1904
  electrotherapy in, (17) 2234
  embolic pneumonia due to, following massage of tuberculous glands in neck, *(90)* 1559
  enzymes of tissues in, (26) 1184
  etiology and diagnosis of, (133) 1734
  eucalyptol, injections in, (64) 1557
  everyday fight on, (76) 351—ab
  exhibit, stroll through, (123) 1644
Tuberculosis, experimental, of kidney with induced *venous hyperemia*, (102) 266
  extinction of, impediments to progress in, (54) 1185
  family, (5) 1729—ab
  frequency of, in employés of sugar refineries, (41) 712
  frequency of, in laundry employés, (46) 355
  function of health boards in control of, (83) 1466
  general management of, (53) 350
  genital, *968, (111) 1733
  grinders', pathology of, (18) 1038
  hemoptysis in, action of hemostatics in, (39) 1379
  history causes and prevention of, (52) 350, (86) 1040
  home and sanatorium treatment of, (46) 2188
  home treatment for, (151) 78, (148) 950, (8) 1277—ab
  human and animal, and transformation of human and other types of tubercle bacillus, (1) 2088—ab
  human and bovine, (2) 870, (70) 948, (85) 1040, (91) 1110—ab, (77) 1186—ab, (6) 1189—ab, (15) 1644—ab, (93) 1733—ab, (127) 1914
  ileocecal, causing tumor and intestinal stenosis, (45) 2095—ab
  immune body, (81) 2194
  immunity and intestinal infection, (8) 1729—ab
  in children and tuberculous cows, (22) 73
  in children, pathology of, (56) 76-ab
  in Connecticut, (134) 534, (12) 622-ab
  in Illinois, treatment of, (75) 533
  in infancy and childhood, (71) 441
  in infants, laboratory diagnosis of, (57) 76
  in lime workers, (14) 2093—ab
  in Minnesota, statistics of, (136) 793
  in State Prison, So. Car., (127) 1111
  in syphilitics, evolution and treatment of, (43) 1822—ab
  incipient apical, chondrotomy of first rib in, (106) 449—ab
  incipient, new methods for diagnosing, *(57) 1647—ab*
  incipient pulmonary, morbid local tenderness a sign of, (63) 1557—ab
  increasing importance of, as cause of ocular disease, new *methods* of diagnosis and treatment, (120) 1282
  infection, public education against, (91) 1904
  infection through *milk*, (85) 793
  influence of Colorado climate on, (111) 1644
  influence of heredity on, (4) 2189
  infrequency of hemoptysis in children with, 915—ab
  internal surgical, Marmorek's serum in, (135) 1474—ab
  joint, treated with Marmorek's serum, (116) 1552—ab
  joint, treatment of, (67) 709—ab, (75) 1110
  keratitis due to, (70) 1642
  landmarks in study of, (16) 172—ab
  laryngitis due to, prognosis and treatment, (62) 1818—ab
  latent endothoracal glandular, diagnosis and specific treatment of, in children, (106) 1473—ab
  league, South Carolina, (125) 1111
  lesion of, effect of injected leucocytes on, (87) 77
  local pigmentation in, 399—ab
  Maragliano's treatment of, (151) 1044
  Marmorek's serum in, (106) 2194
  medicinal treatment of, as interpreted by Sajous, (73) 1642
  meningitis due to, (150) 1037, (77) 1643
  [illegible] due to, cytodiagnosis in *epidemic va*- [illegible]
  mercury in, (48) 75—ab, (15) 166—ab, (7) 944—ab, (43) 1103—ab, *1854, (38) 2187—ab
  methods of Henry Phipps Institute for, (148) 534
  mixed infections in, *2017
  modern conception of, and its treatment, (22) 256
  mortality from, causes of decline of, in Berlin, (40) 712—ab
  necessity of state sanitarium for treatment of, (150) 950
  negative diagnosis of, (80) 1289
  new discoveries to be made in, (118) 626

Tuberculosis ocular reaction to tuberculin in, (150) 78, (68) 82—ab, (170) 87, (13 14) 160, (22) 248, (58) 350—ab, (114) 52 (30) 354, (16) 458—ab (90) 537, (88 90) 540—ab (52) 629—ab (115) 634, (120) 870 (107 108) 877, (17) 952, (95) 956 (8, 9 10) 1031, (102, 147) 1097, (55) 1055, (41) 1112 (86) 1115 (35) 1195 (90) 1196, (82) 1376—ab (84) 1381, (104) 1644, (118) 1641 (20) 1776 *1756, (28) 1816—ab (69) 1818 *1826 (88) 1904
  ocular reaction to tuberculin in dangers of, (90) 447, (109) 717—ab (11) 871—ab (141) 1013 (98) 2011—ab
  ocular reaction to tuberculin in guinea pigs (16) 1901
  of ankle operative treatment of, (75) 631
  of bladder (18) 1770 (23) 1901—ab (70) 2007—ab
  of bone (68) 948—ab
  of bone and joints opsonic therapy in (92) 2[illegible]
  of brain with complete paralysis of both third nerves (97) 1821
  of bronchial glands and [illegible] x ray diagnosis in (46) 1192—ab
  of cervical glands surgery of, (127) 1644
  of cervical lymph nodes early operation for (94) 1023
  of ear, (12) 1278—ab
  of ear inoculation treatment of, (35) 80
  of Eustachian tube, (27) 952
  of eye, (172) 1037, (122) 1282
  of eye diagnostic and therapeutic value of tuberculin in (121) 1287
  of faucial tonsil (98) 2095 (68) 2188
  of female genital (57) 867—ab
  of gastrointestinal tract, (59) 867 ab
  of genitourinary organs tuberculin in (97) 80
  of kidney (77) 875—ab, (78) 1186, (86) 1191—ab
  of kidney experimental with ligated ureter, (114) 359—ab
  of kidney stone and perinephric abscess (141) 953—ab
  of larynx, (80) 259 (27) 628, (31) 866—ab (121, 157) 1037
  of larynx and surgical emergencies (106) 1552
  of lung x ray diagnosis of with demonstration of skiagrams and new orthodiascope (64) 1904—ab
  of mesenteric glands, (32) 866—ab, (73) 114 ab
  of mesenteric glands surgical treatment of, (34) 1468—ab
  of mucous membrane of mouth, (51) 1553
  of nose inoculation treatment of, (35) 80
  of peritoneum retroperitoneal tumor connected with kidney, simulating ascites from (2) 1038
  of pharynx (62) 446
  of prostate, simple chronic symptomatology diagnosis and treatment of (86) 948
  of pulmonary glands x ray diagnosis of in children with spondylitis (69) 2097
  of seminal vesicles (67) 918—ab
  of sigmoid causing stricture, (84) 1040
  of skin (72) 441
  of spinal cord and medulla, course of cerebello olivary fibers in, (43) 445
  of spine treatment of (35) 1467
  of stomach tuberculous cavities of liver (142) 1111
  of suprarenals and congenital syphilis (94) 176—ab
  of testicle (65) 441
  of testicle, diagnosis and indications for operation (58) 867—ab
  of throat inoculation treatment of (35) 80
  of tonsil (140) 78
  of upper air passages, seashore in, (127) 359
  of upper air passages treatment of (19) 255
  of upper respiratory and alimentary tract (62) 1281—ab
  of urinary tract prognosis in, (18) 2093
  of uterus and Fallopian tubes in connection with myoma, (96) 1826—ab
  opsonic index in (31) 80 (74) 533, (9) 626—ab (61) 874, (117) 1560
  opsonins in (108) 2011
  opsonins and vaccines in, (74) 533
  other than pulmonary treated with tuberculin, (3) 944
Tuberculosis outdoor life and rest in, (61) 1165
  overcoming predisposition to and danger from infection during childhood (9) 2185—ab
  oxygen in peritonitis due to, (15) 865—ab
  passive congestion in (35) 1776
  pathology of, (150) 717—ab, (76) 867
  patient, instructions which should be given on making change of climate (48) 1571
  patients necessity of providing employment for (9) 1277
  patients, necessity of disinfection after death or removal of, (16) 1184
  patients psychologic tests made on, (3) 1371—ab
  pericarditis due to (11) 1187
  peritoneal, (70) 1[illegible]
  peritonitis due to (6) 2291
  peritonitis due to and treatment with iodized gelatin, (131) 1747—ab
  peritonitis due to, medical treatment of, (192) 1562—ab
  peritonitis due to, statistics of from Johns Hopkins Hospital, (42) 1464—ab
  peritonitis experimental, due to, (126) 1644
  persons free from absence of reaction to old tuberculin in, (63) 264—ab
  physicians in Colorado for, (115) 1644
  plea for more sanatoria for poor in all stages of (7) 348
  popular lecture in crusade against, (3) 1729
  potassium iodid in, (140) 78
  prephysical signs of, in children, *1752
  prevention of, (146) 950, (125) 1644
  prevention of, and outdoor life, (47) 1185
  primary in a hernia, (58) 1350—ab
  primary intestinal, in adults, (105) 1560—ab
  problem and national department of public health in relation to, (20) 1462—ab
  problem in Philippines elimination of intestinal parasites first step in its solution, (12) 2233—ab
  prophylaxis of, and treatment of early cases, (124) 1771
  protection of cattle against, (121) 259—ab
  pulmonary (27) 441, (1) 626—ab, (150) 870
  pulmonary and laryngeal adjuvants to nutrition and fresh air in, (55) 1465—ab
  pulmonary, and pleurisy (9) 166
  pulmonary antiseptic vapors in, (31) 1646—ab
  pulmonary, Arneth's classification of neutrophile leucocytes and its application in, (22) 2006—ab
  pulmonary, artificially induced pneumothorax in (66) 1557—ab, (47) 2095—ab, (85) 2098—ab
  pulmonary class method of treatment, (6) 1644
  pulmonary, Colorado and eastern, (22) 439
  pulmonary, comparative value of change of climate and treatment in sanatoria near at hand, (3) 2088—ab
  pulmonary, corn oil in *39
  pulmonary, diagnosis and treatment, (150) 78, (96) 176—ab
  pulmonary diagnosis early, of (76) 169 (34) 629 (3) 1183—ab, (97) 2092 (45) 2188
  pulmonary, early symptoms of, (81) 259
  pulmonary, etiology of, (9) 535—ab (16) 536—ab
  pulmonary, expectant treatment of, (4) 1729—ab
  pulmonary, graduated labor in, (68) 1904
  pulmonary, home treatment of, (159) 950
  pulmonary, in school children, (30) 1112—ab
  pulmonary, incipient diagnosis of, (53) 1185, (96) 1195—ab
  pulmonary, incipient, x ray diagnosis of, (83) 715—ab, (100) 949
  pulmonary, influence of pleuritic effusions on course of, (64) 1910—ab
  pulmonary, is opsonic treatment useful in? (31) 629—ab
  pulmonary, medical treatment of, (111) 169
  pulmonary, opsonic index in, (31) 80, (3) 626—ab
Tuberculosis pulmonary, plea for more thorough and optimistic treatment of in private practice, (131) 1282
  pulmonary, pneumococcus in blood in, (60) 1823—ab
  pulmonary, relative and absolute signs of, (105) 1187—ab
  pulmonary, septicemic (46) 873—ab
  pulmonary, symptomatic treatment of, (83) 2098—ab
  pulmonary, treatment of, (59) 76, (75) 715, (65) 1557—ab
  pulmonary, treatment of, along North Sea, (55) 2096
  pulmonary treatment of hemoptysis in (93) 629
  pulmonary, *treatment of in Illinois,* (77) 441—ab
  pulmonary, tuberculin as adjunct to home treatment of, (7) 1031—ab
  pulmonary, tuberculin in diagnosis and treatment, (26) 348—ab (61) 874 (156) 950 (2) 1105—ab, (97) 1582—ab, (3) 1906—ab
  pulmonary, unilateral, operative mobilization of chest wall and lung in, (99) 1116, (53) 1909—ab
  pulmonary, vascular origin of, (60) 2096
  pulmonary, what can we do to lessen death rate of, (52) 1641
  pulmonary, x ray diagnosis of (108) 949—ab (158) 1014, (14) 1283—ab
  pyonephrosis due to, without outward *manifestations,* (72) 1114—ab
  Red Cross in war against, (11) 2088—ab
  renal, (16) 1641
  renal, complete nephro ureterectomy for in women, *459
  rest and exercise in (1) 2233—ab
  salpingitis due to, (82) 1110
  sanatorium treatment for, (14) 944
  sanitarium for West Virginia, (153) 950
  sclerous atrophic nephritis due to, (57) 1986—ab
  sea bathing in (112) 2099
  septicemic, subacute forms of, (48) 873—ab, (64) 2008
  serodiagnosis of *1756
  serum treatment of, and endobacillary albuminoids, (86) 1740—ab
  skin and ocular reactions to tuberculin, (47) 1192—ab
  skin reaction to tuberculin in children and infants (91) 540—ab 710 (62) 791, (49) 873—ab, (47) 1192—ab, (93) 1472, (110, 112) 1741—ab *1756
  skin reaction to tuberculin in, in children and infants (91) 540—ab (103) 541 (62) 791 (82) 1912—ab
  skin reaction to tuberculin in, in measles, (61) 798—ab
  softened, of cervical glands possibility of avoiding scar formation in (1) 2000—ab
  specific prophylactic treatment of, technic of, (129) 717
  specific therapy in (121) 78
  state and municipal control of, (152) 78
  sunlight and solar therapy in, (77) 710
  surgical (39) 2119
  surgical especially of bone, (47) 2186
  surgical, Marmorek's serum in (88) 1913—ab
  surgical treatment of, by iodoform, glycerin and hyperemia, (15) 2093
  therapy modern explanation of seeming paradoxes in, (12) 1106—ab
  toxic non bacterial cutaneous, (113) 1042
  transmission and methods for control of, (82) 1166
  transmission, experimental, from man to cattle (48) 2095
  transmission of, (2) 72—ab, (58) 76—ab
  treated with tuberculosis immune blood, (76) 1471—ab
  treatment of, in private practice, (21) 866
  treatment of according to Brehmer's principles (85) 447—ab
  tuberculin immunization in treatment and prevention of, (53) 791—ab, (123) 1188—ab
  tuberculin reactions in, diagnostic utilization of, (158) 1475—ab
  urinary, diagnosis of, in children, (39) 1821—ab
  use and abuse of drugs in, (38) 1108
  vaccination of cattle against, (94) 869, (47) 1738—ab
  vaccine therapy in, (2) 348, (47) 2007
Tuberculosis, virus Much's granular form of, (116) 1012
  vital points in, (52) 1465—ab
  with and without tubercle bacilli in sputum, (128) 1828—ab
  work in Grand Rapids, (113) 1466
Tuberculous See also Consumptive
  affections, sea bathing in, (112) 2099
  allergy, temporary suspension of during measles, (118) 266
  disease of hip, (8) 261—ab
  glands of neck, tachycardia, tremor and exophthalmos following extirpation of, (27) 2186
  joint disease treated by open cut and exposure to sunlight, (31) 324
  sinuses, fistulous tracts and abscess cavities, (68) 709—ab
  sinuses, treatment of, (60) 76—ab
Tubes See Fallopian Tubes
Tumor, abdominal pelvic and labial (7) 2234
  and stenosis, ileocecal tuberculosis causing pathology and treatment, (45) 2095—ab
  and tuberculosis in same organ, (121) 1474
  brain, *1057, (71) 1375—ab
  brain, diagnosis of (155) 86—ab
  brain localized and removed, symptomatology of lesions in parietal lobe, (4) 1108—ab, (62) 1109—ab
  brain successful removal of, (98) 1196—ab
  brain, with autopsy (14) 1032
  congenital sacral (51) 630
  cystic of suprarenal body, (11) 253
  dermoid, of conjunctiva (12) 438
  gangrenous of leg, in natives of east Africa (105) 1650
  malignant of thyroid, (31) 1278
  mediastinal, unusual, (45) 445
  meningeal compressing cerebellum, (137) 170
  mixed of lip (21) 2236
  of carotid gland, (126) 793
  of frontal lobes, with symptoms simulating paresis, (73) 792
  of ovary, typhoid suppuration of, (117) 1117
  of scalp, giant, (91) 1913—ab
  of spinal cord and suppurative pachymeningitis externa, (80) 2091
  on frenum of tongue in infants, (89) 1649
  parathyroid like, (110) 869
  pelvic, simulated by enlarged wandering spleen, (20) 2093
  placenta, (56) 1113
  primary of pleura, (121) 634
  retroperitoneal, connected with kidney which simulated ascites from tuberculous peritonitis, (2) 1038
  sarcomatous, of ileum, removed by resection of bowel and end to end anastomosis, (39) 1112
  spinal cord and trauma, (139) 170
  symptomatology of, in cerebellum and cerebellopontine angle, (81) 1825—ab
  syphilitic, in stomach (121) 178
  tuberculous, of sigmoid causing stricture, (84) 1040
Tumors See also Neoplasms
  amyloid, of tongue, (108) 1741
  anatomically malignant and dubious, results of ovariotomies for, (91) 716—ab
  bladder in children, (76) 1912—ab
  brain, in children, (83) 82—ab
  brain ocular symptoms of, (85) 1036—ab
  breast, preliminary incision of, and bearing of on plastic resection of breast, (16) 79
  cervical simulating enlarged glands with laryngeal paralysis, (22) 1467
  classification of, (80) 869
  congenital malignant, (70) 1286—ab
  cystic, *of pancreas,* (114) 1377
  embryonal ovarian, (111) 359
  experimental transmissible (95) 2099
  fluctuating, of female pelvis, diagnosis and treatment, (139) 1188
  from inflammation, (46) 1646—ab
  giant of small pelvis removal of, with resection of pubic bone and symphysis (65) 2193
  heteroplastic in transplantations of new growths of animals, (5) 865
  histologic diagnosis of, as basis for operative measures, (115) 1560
  in cerebello pontine angle, and multiple fibromatosis (109) 2194
  in cerebellum, pathology of, (43) 953—ab
  inflammatory, in abdominal wall, following appendicitis (69) 2193
  in corpus callosum, (127) 178
  inoperable, treated with radium, (74) 798
  intra abdominal, diagnosis of, (25) 1730

- Tumors, malignant, influencing of, by atoxyl and foreign albumin, (53) 797—ab
  - malignant, novel method of operating for removal of, (3) 2092—ab
  - malignant, proteolytic cellular activity of, (140) 1043
  - mediastinal, (102) 352, *897
  - mixed, of cheek and lips, (43) 629
  - mouse, influence of scarlet oil on, (120) 2197—ab
  - of adrenal gland, primary, in children, (35) 439
  - of adrenal origin; hypernephroma of kidney, (1) 1460—ab
  - of bladder, (131) 626, (15) 2186—ab
  - of bladder, benign, intravesical removal of, (95) 2092
  - of bladder, transperitoneal removal of, (41) 791—ab
  - of breast in childhood, (31) 2090—ab
  - of cerebellum, diagnosis, surgical treatment and symptomatology of, (85) 1649—ab
  - of heart, especially myxomas, fibroelastomyxoma of heart and casuistic study of tumors of, (103) 1913—ab
  - of heart, primary, (113) 1744—ab
  - ovarian, complicating pregnancy and puerperium, (90) 169—ab
  - ovarian unilateral, and menstruation, (100) 1472
  - puncture of corpus callosum in hydrocephalus, epilepsy and, (110) 1042—ab
  - results of application of special histologic methods to study of, (21) 1184—ab
  - transplantable, genesis of, reactive cell proliferation in white rat and, (27) 2089
- Tunica-vaginalis, coexistence in, of uterus, tubes, and ovaries, (63) 81
  - inversion of, for radical cure of hydrocele, (48) 623
- Tunis and Algeria, plague in, in 1907, (60) 1469—ab
- Turbinate, middle, exophthalmos of three years' duration cured by removal of, (134) 1037
  - removal, rapid, effective and least bloody method of, (28) 1730—ab
- Turbinectomy, submucous, (137) 78
- Turbinotomy and results, (123) 1037
- Turgosphygmography and finger plethysmography, (53) 2096—ab
- Twins, undeveloped, birth of, complicated by heart disease, *316
- Tympanum: See Membrane, Tympanic
  - conservative treatment of chronic suppuration above, (88) 799—ab
- Types, early clinical, of certain diseases, (31) 1555—ab
- Typhobacillose, (5) 2093—ab
  - Landouzy's, experimental reproduction of, (39) 797
- Typhoid, *194, (91) 352, (27) 799, (89) 1036, (100, 107) 1110
  - acute cholecystitis in, second week of, (37) 1640
  - acute dilatation of stomach complicating, (33) 2089
  - acute suppurative perforating appendicitis, complicating, (27) 1462
  - acute tuberculosis simulating, (55) 1113—ab
  - agglutination test, simple, (53) 1374—ab
  - and colon bacilli, virulence enhancing property of bile in, (68) 1738
  - and meningitis, (98) 716
  - and paratyphoid in Palatinate in 1903-1906, (84) 1194
  - apyrexial, (11) 164
  - bacilli carrier, problem of, experiments on immunity in carriers, (18) 1735
  - bacilli carriers, (3) 137—ab, *981, (31) 1190
  - bacilli carriers, effective periods of, (11) 2235
  - bacilli carriers, complement binding substances in blood serum of, (145) 86
  - bacilli, dacryocystitis due to, (35) 946
  - bacilli, discovery of, in cerebrospinal fluid in typhoid, (67) 714
  - bacilli, scanty, detection of, (78) 799—ab
  - bacilli in blood in absence of typhoid fever, (156) 86—ab
  - bacilli, pepsin, digested toxic and immunizing action of, (58) 2096
  - bacilli, pure culture of, cholecystostomy with recovery of, from contents of gall bladder, (37) 1640
- Typhoid, bacteriologic diagnosis of, (95) 447, *978
  - blood cultures in, (33) 866—ab
  - blood in, (105) 800
  - blood in, determination of antigens and antibody in, (65) 1738
  - cholecystitis, treatment of, (17) 263—ab
  - complement deviation test in, (62) 1380
  - complicated by double suppurative parotitis in child, *2216
  - complicated with gangrene of extremities, (165) 87—ab
  - complications, (90) 352—ab, (61) 1375
  - complications, prophylaxis, prognosis and treatment, (89) 352—ab
  - diagnosis of, (96) 632, (110) 717
  - dietetic and injection treatment of, (69) 792—ab
    - and contacts, (6) 2088—ab
  - differentiation of outbreaks of, due to infection by water, milk, flies
  - endemic, from bacilli carrier, (77) 1825—ab
  - empyema of gall bladder with stone, following, (160) 1188
  - epidemic of, at Iloilo, P. I., (82) 169
  - epidemic, small, (84) 169
  - epidemic and contact infection, (83) 169
  - epidemiology and bacteriology in fight against, (58) 446
  - epidemics, responsibilities of municipalities in Ohio valley for, *1496
  - etiology and bacteriology of, (67) 868
  - fatal, contracted in hospital, (68) 2008
  - hemorrhagic complications in, (127) 1731
  - history, etiology and pathology, (36) 1185
  - history of, on U. S. S. Connecticut, (121) 950
  - in child, aphasia complicating, (39) 1185—ab
  - in child, empyema and gangrene of lung complicating, (61) 257
  - in children, retention of urine in, (37) 712
  - in Hindoo army, (46) 1112
  - infection, transplacental, secondary nephritis with case of, (49) 1817—ab
  - laryngeal complications in, (69) 1904
  - located in kidneys, (115) 2100—ab
  - management of, (74) 948, (37) 1185
  - metabolism in, *947
  - milk-borne, outbreak of, extensive, (2) 255—ab
  - milk-free fluid diet and rectal irrigations in, (18, 19, 20) 73—ab
  - nitrate of silver in, (89) 1281—ab
  - nourishment of patients during, (80) 1732—ab
  - sera, amboceptors and complement in, (44) 1464
  - pathogenesis and specific treatment of, (19) 1730
  - pathology of, (19) 1640
  - perforation of intestine in, (138) 1734
  - prevention of, 835—ab
  - preventive inoculation against, in British army, (47) 623—ab
  - prophylaxis and diet in, (106) 1377
  - prophylaxis and treatment, (136) 626
  - spine, *406
  - sulphocarbolates in, (101) 949
  - suppuration of ovarian tumor, (117) 1117
  - toxin, experimental production of atrophy of bone marrow with, (66) 174
  - toxin reaction, ocular, (89) 540—ab
  - treatment and prevention of infection in, (31) 952
  - treatment of, (76) 948, *983, (24) 1550—ab, (77) 2001, (22) 2089
  - tuberculosis, acute, simulating, (16) 1908—ab
  - typical case, symptoms and treatment, (38) 1185
  - vaccination, technic for, (128) 717—ab
  - value of Conradi bile-blood culture medium for diagnosis of, (107) 1289
  - with intermediary bacilli, (49) 1555
- Typhus at Göttingen, (77) 1739—ab
  - in India, (36, 37) 445
  - in Indo China, (69) 532—ab
  - toxin, how to obtain, with lecithin, and its immunizing action, (74) 715
- Tyrol, Austrian, as health resort, (22) 144, (17) 536, (20) 628
- Tyrosinase, action of, on tyrosin, (49) 445
  - Tyrosin, action of tyrosinase on, (49) 445

U

- *Ulcer, Duodenal: See Duodenal Ulcer*
  - anemic spot on duodenum which may be mistaken for, (126) 352
  - Gastric: See Gastric Ulcer
  - multiple rodent, (3) 1731
  - of foot, perforating, negative results of stretching nerve for, (140) 267
  - peptic, diagnosis of, (13) 1519—ab
  - rodent, clinical and pathologic aspect of, (17) 167—ab
  - round, of stomach and duodenum, experimental studies on, (77) 533—ab
  - tropical, (129) 1820
  - tropical, and yaws, therapy in, (31) 1907
  - tropical, types of, in Nyasaland, (31) 1190
  - varicose, and varicose veins of leg, treatment of, (131) 142
- Ulceration, non specific, of bones of nose and face, (62) 1165—ab
  - on genitals, pulverized metallic zinc in, (39) 873
  - of fingers, infectious, (61) 446—ab
- Ulcers, (122) 870
  - corneal, injection of pneumococcus cultures and antiserum for, (101) 541
  - from dilatation in intestine, (131) 1174
  - perforating, of alimentary canal, (6) 914
- Ulerythemia sycosiforme, (191) 171
- Ulna, congenital defect in, (48) 1031
- Ultramicroscope, spirochæta pallida in, (84) 1649
- Ultramicroscopy, importance of, for clinical study, (70) 875
- Ultraviolet ray and high-frequency currents in neurasthenia, (11) 2185
- Umbilicus, cholesteatoma of, (18) 707
- *Uncinariasis*, (121) 534
- Underweight and overweight, influence of, *on vitality*, (12) 1032—ab, (96) 1187—ab
- United-States Marine Corps, medical service of, (107) 1187
  - medical education in, need of uniform standard, *566
  - Pharmacopeial and N. F. preparations, (107) 352
  - Public Health and Marine Hospital Service, (53) 2188
- Universities and colleges as factors in tuberculosis educational campaign, (92) 1901
- University influences, (51) 1903
  - of Michigan, teaching of physiologic pathology at, (86) 2004
  - of Pennsylvania, course in obstetrics in, (6) 349
- Uracil, action of diazobenzene sulfonic acid on, (43) 1731
- Uranalysis in diagnosis of disease, (65) 1465
- Urea carbonic acid for chemistry of drugs, importance of, (59) 797
  - estimation of, in urine, (1) 2092—ab
  - hydrochlorid and quinin, hypodermic use of, in diagnosis and treatment of malaria, (25) 1550 ab
- Uremia, subtemporal decompression in chronic nephritis and neuroretinal lesion with, (31) 1902—ab
- Ureter: See also Ureters
  - and kidney surgery, (35) 2090—ab
  - calculi of, (31) 167—ab
  - calculi of, x-ray diagnosis of, (79) 77, (67) 169—ab
  - calculus in, (149) 442, (105) 949
  - calculus, x-ray diagnosis of fallacies in, (19) 1283
  - catheterizations in, diagnosis and treatment, (57) 1642—ab
  - *displacement of, in pelvic tumors*, (8) 1377
  - fistula in, renal atrophy with, (67) 1739—ab
  - ligated, *experimental tuberculosis* of kidney with, (114) 359—ab
  - obstruction to, (120) 793—ab
  - physiologic and pharmacologic studies of, (21) 1033
  - sigmate constriction of, vaginoureterostomy after nephrectomy for pyonephrosis due to, (16) 1278
  - surgery of, (192) 171, (96) 534
  - upper segment of, kidney and pelvis, plastic operations on, for hydronephrosis, (66) 356—ab
- Ureterostomy, bilateral, value of, in advanced cancer of bladder or prostate, (16) 443—ab
- Uretero-vesical implantation; new method of anastomosis, *1321
- Ureters, and cystoscopy catherization of, in children, (75) 1912—ab
  - and kidneys, operations on, (39) 167—ab
  - behavior of, after abdominal operations for carcinoma *of uterus*, (112) 877—ab
  - implantation of, into rectum for extroversion of bladder in woman, (9) 1820
  - operations on kidneys when catheterization of, is impossible, (117) 800
  - retention catheterization of in bladder affections and prostatic hypertrophy (182) 87—ab
  - shape of, in fetus and infant, (63) 538
- Urethra, air-distended, method of operating in, (17) 1467—ab
  - calculi of, autochthonous, (13) 622
  - dilation of, method of estimating progress of, (22) 172—ab
  - diverticula of, congenital histology and genesis of, (71) 1286
  - diverticula of, treatment of, (79) 1114
  - female, prolapse of, (33) 167
  - impassible stricture of, surgical treatment and plea for retrograde catheterization in, (69) 258—ab
  - length of, (6) 1183—ab
  - obstruction of, (37) 1112
  - prostatic, rectum communicating with, in case of imperforate anus, (89) 1376
  - prostatic, perineal section for obstruction of, (19) 866—ab
  - rupture of, (123) 78
  - rupture of, traumatic, treatment of, *1865
  - *stricture of, treatment*, (11) 2191
  - surgical treatment of impassable stricture of, prompt use of retrograde catheterization in, (19) 167—ab
  - traumatic intussusception of, (103) 358
  - tuberculin reaction in, (105) 1393—ab
- Urethritis, anterior, treatment, (79) 1619
  - chronic, zinc ionization in, (15) 951
- Urethroscope, posterior, in disturbances due to disease of verumontanum, (34) 1372
- Urethroteleseope, (103) 2011
- Urethrotomy, internal, and incision of focus in urinary infiltration, (102) 1281
- Uric-acid, elimination of, action of chinoline carbonates and their derivatives on, (67) 446
  - endogenic and exogenic, determination of elimination of, in gout and other affections, (143) 1475
  - endogenous, origin of, (20) 795—ab
  - diet free from, mistakes which may prevent best results of, (9) 1371
  - metabolism, (90) 1733
  - metabolism during subcutaneous oxygen treatment of neuritis and neuralgia, (149) 1044—ab
  - production of, (155) 1044—ab
- Urinary discharge, efficiency of, (22) 172—ab
  - tract, colon bacillus infections of, (32) 2190
  - tract, infection, vaccine therapy in, (47) 2007
  - tract, upper, calculi production in, after injury to spine, (70) 2097
  - tract, tuberculosis of, prognosis in, (18) 2093
- Urine, acidity of, (6) 260
  - albumin in, quantitative estimation, *38 *2055
  - alleged manifestations of, in diseases of pancreas, *837
  - anasarca from retention of, (129) 1743—ab
  - and blood, suprarenal products in, determination of, (93) 358
  - and gastric juice, clinical examination of, by general practitioner, (5) 1734
  - and serum of syphilitics, presence of complement binding substances in, *1142
  - and stools, infant's, home made apparatus for collecting, for research on metabolism, (64) 1109
  - and stools, toxicity of, and intestinal putrefaction in infants fed on foods rich in albumin, (152) 360—ab
  - apparatus to collect, after operations on bladder, (75) 1114

John J. McIntosh, M.D., Allendale, Ill., to Miss Hester Isabel Holsen, at Robinson, Ill., October 3.

Walter Leon Knight, M.D., Wewoka, Okla., to Miss Rose Byron Humphrey of St. Louis, November 11.

John Lee Riley, M.D., Snow Hill, Md., to Miss Beulah Payne Vincent, at Snow Hill, November 11.

George Clute Reid, M.D., Rome, N. Y., to Miss Kate Theodate Newell, of Rochester, Minn., October 28.

Joseph Ambrosia Jerger, M.D., Waterloo, Iowa, to Grace Frith-Hagans, M.D., of Chicago, November 17.

Thomas Dundon Collins, M.D., to Miss Honora Helena Driscoll, both of Ballston Spa, N. Y., November 4.

H. H. Howlett, M.D., Washington, D. C., to Miss Lina Charleton Walker, at Richmond, Va., November 6.

John Sedgwick Andrews, M.D., Orange, Va., to Miss Margaret Janvier Cooper, of New Castle, Del., October 28.

William Meredith Smith, M.D., Frederick, Md., to Miss Theresa Jamison Fitzsimmons, at Frederick, November 4.

Charles Walter Delaney, M.D., Altoona, Pa., to Miss Elda O. Teeter of Waterside, Pa., at New York City, November 5.

Jesse Strauss Heiman, M.D., Syracuse, N. Y., to Miss Louise Rachael Henry of Winchester, Va., at Baltimore, November 4.

William Minor Bryan, M.D., P. H. and M.-H. Service, New Orleans Quarantine, to Miss Henrietta Kemp White, of Locust Grove, Charlottesville, Va., November 4.

Deaths

Walter Robarts Gillette, M.D. College of Physicians and Surgeons, New York, 1863; a member of the Medical Society of the State of New York and New York Academy of Medicine; assistant surgeon in the Army during the Civil War, and for thirteen years thereafter surgeon to the New York postoffice; at one time consulting physician to Bellevue Hospital and St. Francis hospitals and the Manhattan State Hospital for the Insane; for thirty years an official, and for twelve years vice-president of the Mutual Life Insurance Company; died in Roosevelt Hospital, New York City, November 7, eleven days after an operation for cancer of the intestine, aged 68.

Emil G. Rehfuss, M.D. University of Pennsylvania, Philadelphia, 1884; a member of the American Medical Association; an ophthalmologist of repute; assistant to Dr. Turnbull and later chief of the eye, ear and nose clinic at the German Hospital, Philadelphia; for fifteen years attending ophthalmologist, and later consulting ophthalmologist to St. Agnes' Hospital; died in Philadelphia, October 31, *from influenza, aged 47.*

George W. Bowen, M.D. University of Michigan, Ann Arbor, 1860; a pioneer practitioner of the Maumee Valley; surgeon of the Fourth and Sixteenth Michigan Volunteer Infantry and the Fifth U. S. Cavalry during the Civil War; police surgeon of Toledo, physician of Lucas County, and physician to the Isolation Hospital; died at his home in Toledo, Ohio, November 4, from heart disease, aged 70.

Azel Ames, M.D. Harvard Medical School, Boston, 1871; of Chelsea, Mass.; a member of the Association of Military Surgeons of the United States; and a veteran of the Civil and Spanish-American wars; an officer in the United States service in Porto Rico and the Philippine Islands; well known as a surgeon and a sanitarian; a member of the State Legislature in 1878; died at the State Hospital, Danvers, Mass., November 12, aged 63.

Amos H. Caffee, of Carthage, Mo.; assistant surgeon of the First Arkansas Cavalry and the Fourteenth Kansas Infantry during the Civil War; and since that time a resident of Carthage; twice mayor of the city; and in 1880 treasurer of Jasper County; president of the Central National Bank and of the Carthage Stone Company; died at his home, October 23, from uremia, aged 74.

Walter J. Corcoran, M.D. College of Physicians and Surgeons, New York City, 1882; a member of the American Medical Association, Brooklyn Pathological Society, and president of the Brooklyn Gynecological Society in 1905; gynecologist to St. Mary's Hospital and St. Mary's Maternity, Brooklyn; died at his home in Brooklyn, November 5, from heart disease, aged 52.

Charles Ross Parke, M.D. University of Pennsylvania, Philadelphia, 1847; a surgeon in the Russian Army during the Crimean war; for many years a practitioner of Bloomington, Ill.; and from 1880-1903, chief of staff of St. Joseph's Hospital; one of the founders of the Illinois State Medical Society; died at the home of his daughter in Louisville, November 6, from cerebral hemorrhage, aged 85.

John R. Cook, M.D. Jefferson Medical College, Philadelphia, 1884; a member of the American Medical Association; honorary member of the Royal Gynecological Society, London; formerly president of the Cook Hospital and Training School, Fairmont, W. Va.; died at his home in Fairmont, November 9, from septicemia, due to an operation wound, aged 45.

Con W. Gatch, M.D. Cincinnati College of Medicine and Surgery, 1892; a member of the American Medical Association; secretary of the Miami Valley Medical Association; coroner of Clermont county, Ohio; health officer and for several terms mayor of Milford; surgeon to the C. M. & L. Traction Company; died at his home in Milford, November 5, aged 52.

Samuel George Renshaw, M.D. Dartmouth Medical School, Hanover, N. H., 1852; one of the best known and beloved physicians of New Orleans; a surgeon in the service of Emperor Maximilian, and later in the United States Army during and after the Civil War; died at St. Bernard Home, November 9, as the result of a fall a few weeks before, aged 79.

Philip Hamilton Sellew, M.D. Jefferson Medical College, 1890; a member of the Connecticut State Medical Society; for twelve years a practitioner of Salisbury, Conn.; for eight years a member of the local board of U. S. pension examining surgeons; died at his home in Westfield, Mass., October 31, from acute nephritis, aged 46.

George H. Bean, M.D. Physio-Medical Institute, Cincinnati, 1876; a member of the American Medical Association; a veteran of the Civil War; for 20 years a member of the Meigs County, Ohio, board of U. S. pension examiners; died at his home in Rutland, November 2, after an operation for cholelithiasis, aged 67.

Arthur G. Randolph, M.D. Rush Medical College, Chicago, 1899; a member of the Missouri State Medical Association; formerly surgeon to the Missouri Lumber and Mining Company, Grandin; and medical examiner for the C. B. & Q. Railway; died at his home in Kansas City, Mo., November 8, aged 32.

John E. Harris, M.D. Louisville Medical College, 1870; a member of the Indiana State Medical Association; and a member of the board of pension examining surgeons; for two years city editor of the Louisville *Evening Post*; died at his home in Bloomington, Ind., November 5, from nephritis, aged 61.

Charles A. Veith, M.D. University of Pennsylvania, Philadelphia, 1895; Johns Hopkins University, Baltimore, 1897; for a time deputy coroner of Schuylkill County, Pa.; formerly surgeon to the Pottsville (Pa.) Hospital; died at his home in Pottsville, from heart disease, November 5, aged 34.

Frederick H. Wells, M.D. Syracuse (N. Y.) University, 1883; a member of the American Medical Association and a specialist on diseases of the eye, ear, nose and throat, of Grand Junction, Colo.; died in St. Joseph's Hospital, Denver, November 5, from meningitis, following an infection of the face, aged 47.

William Hill Grafton, M.D. University of Maryland, Baltimore, 1849; one of the proprietors of the *West Coast Magazine*, Los Angeles; for more than forty years a practitioner of Iowa; and for two years quarantine officer at Baltimore; died at his home in Los Angeles, November 8, aged 80.

Nathaniel S. Robinson, M.D. Harvard Medical School Boston, 1852; for fifty years a practitioner of Neenah, Wis., and representative from that district in 1875; said to have been the oldest practitioner of the Fox River Valley; died at his home in Neenah, November 5, from senile debility, aged 81.

Clayton Glanville Coleman, M.D. Medical College of Virginia, Richmond, 1859; of Richmond, Va.; surgeon of the Twenty-fourth Virginia Infantry, C. S. A., during the Civil War; died in St. Vincent's Infirmary, Little Rock, Ark., October 7, from cerebral hemorrhage, aged 68.

Samuel W. Boynton, M.D. Eclectic Medical Institute, Cincinnati, 1859; University of Louisville, Ky., 1868; for many years a member of the board of U. S. pension examining surgeons in Cincinnati and Louisville; died suddenly at his home in San Antonio, Texas, October 31, aged 73.

Thomas H. Vernon, M.D. University of Edinburgh, Scotland, 1873; Royal College of Surgeons, Dublin, Ireland, 1877; formerly secretary of the state medical society and president of the Vernon County Medical Society; died at his home in Hillsboro, Wis., November 9, aged 55.

Francis E. Potter, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1881; Kentucky School of Medicine, Louisville, 1883; of Corning, Iowa; a member of the Iowa State Medical Society; was killed by the overturning of his automobile, near Corning, November 9, aged 52.

Samuel Smith Troy, M.D. Rush Medical College, Chicago, 1866; a veteran of the Civil War; and for more than 40 years a practitioner of Chickasaw and adjoining counties in Iowa; died at his home in Waterloo, November 8, from cerebral hemorrhage, aged 76.

Frederick Wright Simpson, M.D. Cooper Medical College, San Francisco, 1894; for several years a surgeon on transpacific steamers; and later a practitioner of Pueblo, Colo.; died at the home of his parents in St. Paul, Minn.; November 8, from tuberculosis, aged 34.

Daniel Winans Smith, M.D. New York University, New York City, 1856; a member of the American Medical Association; for more than fifty years a practitioner of Newark, N. J.; died at his home in that city, November 10, from senile debility, aged 75.

George William Tyner, M.D. University of Bishop's College, Montreal, 1902; of Kingston, Ont.; formerly of Norfolk, Va.; was killed by the overturning of an automobile while making a professional call at night at Tipton, Ont., recently, aged 31.

John A. Barksdale, M.D. Medical College of the State of South Carolina, Charleston, 1847; one of the oldest and most beloved practitioners of Laurens County, S. C.; died at his home in Laurens, November 6, from senile debility, aged 81.

William A. McCamly, M.D. Tulane University, New Orleans, 1869; a member of the American Medical Association; local surgeon for the Southern Pacific Railroad at Wharton, Texas; died in a sanitarium in San Antonio, November 2, aged 59.

Charles M. Ross, M.D. Missouri Medical College, St. Louis, 1891; of Tahlequah, Okla.; a member of the Missouri State Medical Association; was found dead November 3, near Tahlequah, from contact with a "live" electric wire, aged 40.

Joseph F. Dicus, M.D. Rush Medical College, Chicago, 1880; of Streator, Ill.; a member of the American Medical Association; died in St. Mary's Hospital, Streator, November 1, a week after an operation for appendicitis, aged 56.

Anton Coe, M.D. George Washington University, Washington, D. C., 1888; of Washington, D. C.; a member of the American Medical Association; died in the New Haven (Conn.) Hospital, from pneumonia, November 5.

John Joseph O'Neill, M.D. Syracuse (N. Y.) University, 1908; an interne in a hospital of Syracuse; died in the dispensary of the institution November 4, from accidental poisoning by cyanid of potassium, aged 23.

Charles A. Brown, M.D. Baltimore Medical College, 1895; a member of the American Medical Association; and a village trustee of Ludlow, Vt.; died suddenly at his home, November 2, from heart disease, aged 49.

William Newton Graham, M.D. Missouri Medical College, St. Louis, for a long time business manager of the Sedalia (Mo.) *Evening Sentinel*; died in Excelsior Springs, Mo., October 28, from diabetes, aged 59.

Arch R. Hagey, M.D. University of Pennsylvania, Philadelphia, 1901; of Hastings, Pa., formerly of Martinsburg; died from nephritis, October 30, in the University of Pennsylvania Hospital, Philadelphia.

Brown Colley, M.D. Jefferson Medical College, Philadelphia, 1897; a member of the American Medical Association; was found dead from heart disease in his office in Dunbar, Pa., November 1, aged 40.

Carman Champion Stokes, M.D. Cincinnati College of Medicine and Surgery, 1874; a member of the American Medical Association; died at his home in Rushsylvania, Ohio, November 9, aged 59.

Lloyd T. Macgill, Sr., M.D. Baltimore Medical College, 1851; of Frederick, Md.; died in the Frederick City Hospital, October 29, from septicemia following a surgical operation, aged 79.

George H. Graham, M.D. University of Bishop's College, Montreal, 1868; formerly of Wenatchee, Wash.; died in his apartments in Olympia, Wash., from pneumonia, October 31, aged 61.

Bennett Perry Alston, M.D. University of Maryland, Baltimore, 1868; a member of the Medical Society of the State of North Carolina; died at his home in Henderson, October 31, aged 62.

Oliver Leach Bradford, M.D. Trinity Medical College, Toronto, 1861; Homeopathic Hospital College, Cleveland, 1861; died at his home in Fitchburg, Mass., November 3, from cardiac asthma.

Richard N. Hewitt, M.D. University of Pennsylvania, Philadelphia, 1849; a member of the Medical Society of Virginia; died suddenly at his home in Evington, November 8, aged 84.

Orrel C. Curtis, M.D. Albany (N. Y.) Medical College, 1905; formerly of South Egremont, Mass.; died at the home of a relative in Bristol, Wis., recently, from tuberculosis, aged 27.

Alexander A. Hendrix, M.D. University of Tennessee, Nashville, 1878; a member of the Kentucky State Medical Association; died at his home in Crofton, Ky., November 9, aged 78.

Alfred Hadley Lindley, an eclectic practitioner of Los Angeles, formerly of Chicago; died at the Sea Side Hospital, Long Beach, Cal., October 18, from cerebral hemorrhage, aged 64.

Thomas Boyd Meacham, M.D. Medical College of the State of South Carolina, Charleston, 1861; a Confederate veteran; died at his home in Fort Mill, S. C., October 25, aged 72.

James D. F. Dudley, M.D. Medical School of Maine, Brunswick, 1873; died suddenly at a banquet in Arkansas City, Kan., November 2, from cerebral hemorrhage, aged 53.

Charles Edwin Parent, M.D. University of Bishop's College, Montreal, 1885; of San Francisco; died in the French Hospital in that city, October 29, from diabetes, aged 45.

Justin Allen, M.D. Harvard Medical School, Boston, 1856; a member of the Massachusetts Medical Society; died at his home in Pittsfield, Mass., November 6, aged 82.

Nelson B. Covert, M.D. Cleveland Homeopathic Medical College, 1862; an ophthalmologist of Geneva, N. Y.; died in Atlantic City, N. J., November 7, aged 68.

William A. J. Brown, M.D. Eclectic Medical Institute, Cincinnati, 1889; died suddenly at his home in Elkins, W. Va., November 5, from heart disease, aged 50.

John Harper, M.D. Cincinnati College of Medicine and Surgery, 1863; died at his home in Mount Vernon, Ind., October 19, from cerebral hemorrhage, aged 82.

Howard L. Power, M.D. Rush Medical College, 1888; formerly of Brower, Ore.; died in Marlin, Texas, October 23, from typhoid fever, aged 46.

Davies Coxe, M.D. University of Virginia, Charlottesville, 1884; of New York City; died in Dresden, Saxony, November 7, from diabetes, aged 47.

Edmund W. Fall, M.D. Bennett Medical College, Chicago, 1888; of Aurora, Neb.; died at Hot Springs, Ark., September 30, from nephritis, aged 58.

James T. Allen, M.D. Missouri Medical College, St. Louis, 1856; a pioneer settler of Gallatin, Mo.; died at his home in that place, November 6.

John Wellesley Sill (license, Mass., 1894) of Worcester, Mass.; died at the Worcester Home Farm October 31, from senile debility, aged 82.

Edwin Posey West, M.D. University of Georgia, Augusta, 1870; died at his home in Clarksville, Ga.; October 23, from mastoiditis, aged 71.

R. A. J. McFerrin (License, Tenn., 1889); a Confederate veteran, died at his home in Oliver Springs, Tenn., July 4, from heart disease.

Robert L. Wall, M.D. Missouri Medical College, St. Louis, 1890; of Tulsa, Okla.; formerly of Leeton, Mo.; died in Denver, October 25, from tuberculosis.

Franklin E. Butler, M.D. New Orleans School of Medicine, 1870; died suddenly at his home in Smithdale, Miss., November 1, from pneumonia, aged 59.

William H. McElroy, M.D. Bellevue Hospital Medical College, New York, 1881; of Houston, Texas; died in Chicago, November 1.

William H. Grominger, M.D. Pennsylvania Medical College, Gettysburg, 1848; died at his home in Philadelphia, May 6, aged 84.

J. P. Hill, M.D. Memphis (Tenn.) Hospital Medical College, 1901; of Poplarville, Miss.; died in Hattiesburg, Miss., October 31.

Philander P. Outland, M.D. Eclectic Medical Institute, Cincinnati, 1881; of Zanesfield, Ohio; died November 5, aged 57.

J. B. Reynolds, M.D. Atlanta (Ga.) Medical College, 1878; died at his home in Lumber City, Ga., November 4.

Society Proceedings

COMING MEETINGS.

Southern Surgical and Gynec. Assn., St. Louis, Dec. 15-17.
Western Surgical and Gynec. Assn., Minneapolis, Dec. 29-30.
American Assn. of Anatomists, Baltimore, Dec. 29-31.

THE SOUTHERN MEDICAL ASSOCIATION.

Second Annual Meeting, held at Atlanta, Ga., Nov. 10-12, 1908.

The President, Dr. B. L. Wyman, Birmingham, Ala., in the Chair.

Addresses of welcome were delivered by Hon. Hoke Smith, Governor of Georgia, and Dr. J. C. Olmstead, of Atlanta. The response was by Dr. G. C. Savage, Nashville, Tenn.

President's Address.

Dr. B. L. Wyman: This organization is no longer an experiment; I believe that it will develop into one of the strongest bodies in the country. Until recently the South has not kept pace with the East and West in medical progress. Owing to the unwieldy size of the American Medical Association, and to the fact that many Southern physicians could not attend its sessions, there has been for several years a need for an association, without legislative functions, whose aim should be the study of the disease peculiar to this section of the country. The aims of the association are the encouragement of scientific endeavor and the fostering of cordial relations between the members of the profession in this territory. I recommend that immediate steps be taken to establish a journal of the Southern Medical Association. Some of the problems that have to be dealt with in the South are: malaria, yellow fever and tuberculosis—especially among the negroes. County and state sanatoria for tuberculosis should be established. The chief menace to health in the South is the negro race, and negroes should be taught by the medical profession and the leaders of their race how to live properly, so that they will not so easily become a prey to disease. When the Panama Canal is completed the South will be open to new dangers, not only yellow fever, but cholera and bubonic plague.

Annual Oration: Limitations of Laboratory Work.

Dr. H. F. Harris, Atlanta: The general accentuation and widespread adoption of laboratory methods as aids in the diagnosis and treatment of disease, along with the all but universal ignorance of the general practitioner concerning them, has and still leads to much unfortunate misunderstanding. The attitude of the profession toward the laboratory man is closely akin to that of the general public toward physicians. It is curious that the intelligent physician, with his eyes wide open, will repeat the error of the layman. Laboratory work is often entrusted to young and inexperienced men, and to add to the unreliability of such examinations the laboratory man is often given no information whatever concerning the patient. A great part of our work requires expert interpretation, and laboratory results, even when accurate, are but links in the chain that go to make up the proper diagnosis. As a nation we seem to lack the artistic temperament that is necessary to do really original work. Almost without exception we content ourselves with blindly accepting the results of European investigators. To remedy these evils, the laboratory man should be careful and accurate and always give the clinician his honest opinion. The clinician should remember that practically every laboratory report requires intelligent interpretation, and that he must not expect absolute results. He should never fail to send with his specimen all possible information respecting it and the patient.

Problems in Medicine Which Affect the Prosperity of the South.

Dr. Seale Harris, Mobile, Ala.: The physicians of the South have to deal not only with the problems which are present in other parts of the country, but because of climatic and other conditions, with diseases which are peculiar to the section and which affect Southern prosperity. The principal of these are yellow fever, malaria, uncinariasis and pellagra. The health of the negro is another important question. The future of the South depends largely on the solution of these problems. If the Southern states can be freed from these diseases, if the poor whites and negroes of the South can be made stronger physically and morally and become efficient laborers, capital and capitalists will pour into this section to develop our magnificent resources. Prove that yellow fever and malaria are forever stamped from the South, and our prosperity will amaze the world.

Tincture Veratrum Viride (Norwood).

Dr. J. S. Todd, Atlanta, Ga.: This drug, at one time one of the most used, has now fallen into disfavor, especially in the North. Norwood's tincture was the only preparation used in the South, and the usual dose was one and a half minims, or three drops, generally at three-hour intervals. The doses recommended in modern books on materia medica vary from five to thirty minims. Morphin hypodermically is a perfect antidote. Veratrum viride does not cut short pneumonia, typhoid, or any other disease, but it still has its uses. It is not only a cardiac depressant, but a vasodilator. Given in the doses mentioned it does not produce any unpleasant effects, and the pulse can be kept at about 65 or 70 and soft. In the treatment of puerpural eclampsia five-minim doses may be given, hypodermatically, repeated hourly, if necessary. My principal employment of this drug now is in the treatment of certain heart diseases and all troubles in which there is increased blood pressure. It may be combined with digitalis, squills, strychnin and other drugs when indicated.

(To be continued.)

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Thirty-fourth Annual Meeting, held at Louisville, Ky., Oct. 13-15, 1908.

(Concluded from page 1725.)

Incidence and Differential Diagnosis of Gall-Bladder Disease and Gastric Ulcer.

Dr. J. A. Lichty, Pittsburg, Pa., discussed gall-bladder disease and gastric ulcer in detail and concluded his paper as follows: (1) The coincidence of independent gall-bladder trouble and gastric ulcer is rather rare; only 1 in 321 cases of my series. (2) Gastric ulcer with its complications can easily cause an interference with the function of the gall bladder and duct to such an extent as to produce definite gall-bladder pathology. (3) Gall-bladder disease with its complications may cause such a disturbance of gastric function as to simulate, if not actually cause, gastric ulcer. (4) While a combination of these two lesions may produce a complexity of symptoms, which makes a definite diagnosis impossible, the indications for operative interference are usually so definite that to disregard them would be disastrous to the patient.

Syphilitic Crises Simulating Surgical Emergencies.

Dr. M. A. Austin, Anderson, Ind.: The external evidence of syphilis most frequently resembles the slowly growing tumors, especially of bone, but these should give little trouble in their diagnosis. The abdominal crises may simulate a number of organic diseases. In three of my cases, one simulated gallstones, another renal colic and a third obstruction of the bowel. The various manifestations of syphilitic disease of the spinal cord are frequently overlooked. Syphilis is not a rare disease in any community; 80 per cent. of the cases are said to result from innocent infection.

Differentiation of Oft-Recurring Gastric Pains from Gallstone and Other Visceral Pains.

Dr. N. Rosewater, Cleveland, Ohio: Nearly all pains of the digestive organs occur during functional activity, while those due to gallstones, visceral and other causes are independent of the digestive periods. By giving nutritive enemata for periods of one, two or more weeks, we can put the digestive functions of the stomach and duodenum at rest for so long a period that such pains as would occur during this resting period can scarcely be attributed to gastroduodenal function, but rather to independent causes. In this way we eliminate from consideration the digestive function entirely by this gastric rest test.

Systemic Effects of Chronic Infections of the Throat and Nose.

DR. F. G. STUBBS, Chicago: In view of the fact that so many systemic diseases are infectious in origin, the atrium of infection assumes a large place in the prophylactic and hygienic treatment. The nose and throat from their anatomic location at the beginning of the alimentary and respiratory tracts, and because of diverticula, such as the sinuses and tonsillar crypts, offer a large field for local and general infection. In the nose infection is due less to the direct absorption of bacteria and toxins than to the fact that the discharges carry these into the respiratory and alimentary tracts. Pure cultures of pneumococci, streptococci and meningococci have been obtained in suppurative sinus discharges. Diseased tonsils and adenoids are responsible for a large percentage of systemic effects, particularly tuberculosis and acute articular rheumatism.

Autogenous Bacterial Vaccines.

DR. OSCAR BERGHAUSEN, Cincinnati: Bacterial injections are of distinct therapeutic value. In most cases the improvement is a gradual one, although marked at the start. As in all branches of therapeutics, negative as well as positive results will be obtained. He who wishes results must follow the methods of Wright, including a careful bacteriologic analysis in each case, the preparation of an autogenous vaccine in most cases, and a careful consideration of the clinical symptoms. The opsonic index, although it may only register one phase of immunity, can be of distinct value, especially in mixed infections.

Differential Diagnosis of Mediastinal Sarcoma.

DR. R. H. BABCOCK, Chicago: This case is reported not because of the difficulty attending its diagnosis, but because it was mistaken for either pulmonary tuberculosis or pulmonary syphilis. The patient was a young man of 27, who when seen was suffering from orthopnea, anasarca, and slight cough, with scanty mucous sputum. Chancre had been contracted three years before and mercury had been used in such doses that its physiologic effects were produced nine months prior to my visit. These symptoms had been mistaken for the secondary manifestations of lues, and they, together with the discovery by *x*-ray of a shadow at the right of the sternum, had seemed to confirm the supposition that the pressure symptoms subsequently developed were due to gumma in the right lung. Physical examination, however, revealed unmistakable signs of intrathoracic pressure with displacement of the heart, right-sided hydrothorax and anasarca. Enlarged cervical and axillary lymph nodes were also detected. The subjective and objective symptoms were so plainly unlike those of consumption of the lung or of gumma of that organ that I had no hesitation in diagnosing a tumor, probably sarcoma, of the mediastinum. A subsequent postmortem established the correctness of the *intra vitam* diagnosis.

Hysterical and Neurasthenic Conditions Following Accidents.

DR. B. F. TURNER, Memphis: A plaintiff in an action for damages following an accident need not necessarily be considered as perpetrating a fraud because physical disability can not be proven. To assume the grave responsibility of expert witness demands extraordinary skill, knowledge and experience, as well as a finely adjusted judicial temperament. It is no part of the office of the medical expert witness to support either side of the case. Rather than to run the risk of appearing ridiculous in the eyes of his fellow practitioners, the conscientious physician will decline an attractive fee and refuse to appear in a rôle for which his daily walk and well-established reputation appears to fit him but poorly.

Surgery of Venereal Stricture of the Rectum.

DR. GEORGE B. EVANS, Dayton, Ohio: Venereal disease of the rectum constitutes an affection which has been mastered by neither the syphilographer nor the proctologist. The former is not familiar with the armamentarium for rectal exploration, and the latter is not thoroughly familiar with venereal diseases. The manifestations of syphilis escape the former because they are often removed from the field of vision; while the attention of the latter is called to the fact because pain exists in the rectum. Two propositions confront us: First, is this form of stricture of the rectum a local manifestation, or is it due to primary sore? Second, is it the result of secondary or tertiary syphilis, or rather a constitutional infection followed by chronic inflammation and infiltration? According to an able author, it is due to the rectum becoming inoculated through the secretions from the sores on the vulva, thus giving rise to chancroidal ulcers; these ulcers become cicatrized and constriction takes place. Again, the presence of chancroids at the orifice of the vagina, or about the anus gives rise to an inflammation of the areolar tissue surrounding the lower portion of the gut, and by the effusion of inflammatory material at certain points, giving rise to constriction either in this way alone or by directly producing inflammation and ulceration of the mucus coat of the bowel. I have seen many cases of chancroid of the vulva extending down and involving the anus, which were filthy in the extreme, but stricture of the rectum did not exist. If chancroidal virus were carried into the rectum, every prostitute would have stricture of the rectum. I believe that secondary induration of the rectum following a chancroid of the anus can occur. This induration may be followed by a chronic inflammation and ulceration and develop cicatricial tissue, thus forming an extensive stricture from which double infection may occur. Again, this stricture may be the result of true tertiary inflammation or ulceration, the rectal wall being infiltrated with syphilitic neoplasms, or by becoming organized into constrictive tissue, producing a stricture. The true explanation of the preponderance of stricture in women, whether specific or otherwise, is to be sought for rather in the anatomic relations of the rectum than in any constitutional diathesis. The site of the stricture is generally at or about the attachment of the fibers of the levator ani. This possibly plays an important causative factor indirectly, there being more or less constriction here. consequently if there is any ulceration the power of resistance in the patient is not sufficient to overcome the trauma. Here it is that the feces meet the first resistance, and where these strictures undergo contraction, and chronic inflammation follows. While iodids are usually prescribed in these conditions, they are not of curative value, and it is only by incision and eternal mechanical dilatation that these strictures of specific nature can be made tolerable.

DISCUSSION.

DR. ARTHUR DEAN BEVAN, Chicago: Almost all cases of benign stricture of the rectum are due to gonorrheal inflammation, and not to syphilis. I have had the opportunity of following the development of stricture of the rectum from a gonorrheal inflammation in two instances of gonorrheal proctitis in females. The inflammation involved the urethra and vagina, later the rectum, and within a short time a distinct stricture of the rectum formed. Gonorrhea occurs in the female twenty times as often as it does in the male child, because the female child is peculiarly susceptible anatomically and because of the ease with which infection of the vagina occurs in the female, and the difficulties with which it can inoculate a small urethra in the male child.

DR. J. R. PENNINGTON, Chicago: I have had a number of cases of gonorrhea of the rectum, and while the gonococcus was demonstrated to be present, as yet I have not seen a closed stricture of the rectum following. There has been much thickening of the rectal walls in some of them, but not sufficient to dignify it by the name of a stricture of large caliber.

X-Ray Diagnosis of Stricture of the Esophagus.

DR. SIDNEY LANGE, Cincinnati: The fact that organic and spasmodic strictures may have points in common and may be combined, and the fact that in neurotics, in valvular heart disease, and in mediastinal tumor cases the passage of the stomach tubes and bougies is distinctly dangerous, establishes the value of the *x*-ray method. It consists in giving a small bismuth capsule, a large bismuth capsule, and then several swallows of bismuth mush. From a study of the act of deglutition itself any obstruction to the passage is at once evident; the size and extent of the obstruction, and whether organic or spasmodic can be determined. Weak or deficient peristalsis is registered by the stoppage of the bismuth capsule, and thus an early diagnosis is possible before the stomach tube meets with resistance and even before dysphagia is present. Increased mediastinal pressure can thus be recognized early by the stoppage of the bismuth capsule in the esophagus. There exists a sphincter at the entrance of the esophagus, as well as at the cardia. Instrumentation often serves to increase the spasm of these sphincters. The non-irritating bismuth mush will relax it.

Legal Responsibility.

DR. A. E. STERNE, Indianapolis: There should be more careful examination and observation of persons accused of criminal acts and for whom the plea of insanity is advanced. In my opinion, insanity once established is a clear basis for irresponsibility in a legal sense, but at the same time I emphasize the necessity for not permitting criminals who have been declared to be of unsound mind to be set at liberty. I deny the psychiatric entity of so-called moral insanity in the so-called temporary emotional state, and I would deny them altogether the protection of law and medicine. At the same time morbid tendencies and perversions associated with other evidences of mental unsoundness clearly establish insanity and are symptoms of well-defined psychoses. The existence of a mere delusion unaccompanied by other signs of mental impairment do not establish insanity; but, on the other hand, the existence of a delusion even of a single variety associated with definite signs of mental and physical defect is a sufficient basis for such a plea.

The Human Element in Medicine.

DR. P. ZENNER, Cincinnati, Ohio: As practitioners, we are too prone to overlook the human element in disease. We not only overlook the characteristics of the patient, his special physiologic or pathologic reactions, but we are apt to forget that great factor in health and disease, his mental attitudes and aptitudes. A powerful therapeutic agency is the mode of examination of the patient. The physician may harm his patient by neglect or delay in telling him the result of the examination of the urine, for instance, the idea arising in the patient's mind that he has serious disease, of which his physician is unwilling to speak. The human element figures materially in diagnosis and prognosis. The mental element frequently plays a large or controlling part in the case. Let each of us ask himself: What of present suffering is due to the mode of examination, the diagnosis or prognosis given, or the treatment instituted, and how much can be gained by remedying any harm thus done, or by well-directed suggestions, or by a heart to heart talk with the patient as to what his mind has done, and may do, in the way of mental and physical health?

Object Lessons in Otology for the General Practitioner.

DRS. J. A. STUCKY and S. B. MARKS, Lexington, Ky.: We have endeavored to impress the general practitioner with the necessity of a careful and routine examination of the ears of children in all febrile conditions, especially in the acute exanthemata. To accomplish this the medical schools of our country must offer a better course of instruction in the diseases of the throat and ear. We advise that a free myringotomy be done in cases of earache after pain has persisted for a few hours, with no relief from local and general measures, whether there be fluid in the middle ear or changes in the drum membrane, as it relieves the pain and renders further trouble much less likely. A search must then be made for the cause of the trouble. The value of microscopic examination of every aural discharge can not be over-estimated, since the various organisms causing middle-ear suppuration and consequent mastoiditis differ in virulence. The differential leucocyte count is also of value. Every patient with mastoid tenderness should be carefully watched; the disappearance of pain and restlessness means the same thing in mastoiditis as in appendicitis—a relief of local pressure, the pus escaping externally or internally. The so-called classical symptoms should not be waited for in mastoid disease, but early operation done, thereby conserving the patient, as less anesthesia is required, there is less shock, the middle ear is frequently saved, and complications are avoided. Chronic conditions of the middle ear should always be considered dangerous and should receive careful attention and operative treatment if necrosis be present. The treatment of the constitutional phase of every ear case, no matter how mild, is important in regard to the intestinal tract.

Other Papers Read.

The following papers were also read:

"Administration of Ether by Rectum," by Dr. F. Besley, Chicago; "Résumé of the Various Technics for Dislocated Kidney and Application of Each," by Dr. E. Harlan, Cincinnati; "Obstruction of the Bowel," by Dr. C. T. Souther, Cincinnati; "Value of Enterostomy in Intestinal Obstruction," by Dr. E. M. Gilliam, Columbus, Ohio; "Internal Urethrotomy: Indications and Treatment," by Drs. F. C. Valentine and T. M. Townsend, New York; "Precancerous Influence of Gastric Ulcer," by Dr. W. D. Haines, Cincinnati; "When Should the Prostate Be Removed," by Dr. E. O. Smith, Cincinnati; "Fracture of the Astragalus with Dislocation of the Fragments," by J. H. Stealy, Freeport, Ill.; "Cause of Failure in Treatment of Tuberculosis," by Dr. F. M. Pottenger, Monrovia, Cal.; "Multiple Serositis," by Dr. W. L. Bierring, Iowa City; "Expert Testimony and the Medical Witness," by Dr. L. M. Crafts, Minneapolis; "Cerebral Rheumatism," by Dr. H. H. Hoppe, Cincinnati; "Mental Responsibility," by Dr. C. W. Hitchcock, Detroit; "A New Field for Practice in Spirit and Drug Neuroses," by T. D. Crothers, Hartford, Conn.; "Feeding and the Use of Alcohol in Typhoid Fever," by Dr. J. H. Landis, Cincinnati; "Hyperchlorhydria and Its Treatment Based on Animal Experimentation," by Dr. M. M. Portis, Chicago; "Pernicious Anemia," by Dr. J. A. Witherspoon, Nashville, Tenn.; "Causation and Treatment of Infantile [illegible] W. Saunders, St. Louis; "The Liver in Five [illegible] tro-intestinal Diseases," by Dr. M. H. Mac[illegible] hildren," by Dr. I. A. Abt, Chicago; "Fa[illegible] of Pulmonary Edema," by Dr. J. L. Miller, Chicago; "Treatment of Sciatica by Deep Perineurial Infiltrating Injections of Salt Solution," by Dr. D'O. Hecht, Chicago; "Case of Pulmonary Tuberculosis," by Dr. S. G. Bonney, Denver; "Relapses After Apparent Cure in Pulmonary Tuberculosis," by Dr. C. L. Minor, Asheville, N. C.; "Early Treatment of Squint," by Dr. G. F. Suker, Chicago; "Clinical Facts Speaking for the Identity of the Pneumococcus and Meningococcus," by Dr. R. B. Preble, Chicago; "Improved Methods for Preparation of Glycerin Jelly for Macroscopic Specimens," by Dr. G. I. Hogue, Milwaukee, Wis.

MEDICAL SOCIETY OF VIRGINIA.

Thirty-ninth Annual Meeting, held in Richmond, Oct. 20-23, 1908.

(Concluded from page 1724.)

Cesarean Section.

DR. LEWIS C. MORRIS, Birmingham, Ala.: In infected cases the incision is closed as usual by continuous through and through sutures of catgut into the uterine wall, except for a distance of three centimeters at the lower angle. A Mikulicz wick is introduced through the abdominal wall into the uterine cavity. It is important to minimize the loss of blood, and this is best accomplished by an assistant compressing the uterine artery, or by encircling the cervix with a soft rubber catheter before the uterine incision is made. In predetermined, elective Cesarean sections it is never necessary to remove the uterus except where there is uncontrollable hemorrhage from the placental site, or where there is carcinoma of the cervix or a myxomatous tumor which can not be enucleated. Where there is exhaustion and infection, or probable infection, the uterus should be removed or treated by drainage through the abdominal wall.

If it is desired to prevent future conception tie off the tubes at the outer ends. Where a diagnosis of positive indication for Cesarean section is made before the onset of labor, I am convinced it is safest and best to carefully compute the termination of gestation, and upon its arrival operate regardless of labor. I am also convinced that the diagnosis of the conditions necessitating Cesarean section can most frequently be made before the onset of labor. If this is done the operation becomes one of election and, in the hands of the expert and done under proper conditions, maternal and infantile mortality should be almost nothing or no greater than in clean, interval appendectomies.

DISCUSSION.

DR. E. MCGUIRE, Richmond: In a case of puerperal eclampsia with undilatable cervix I performed a vaginal Cesarean section which was attended with practically no loss of blood, and recovery was uneventful. The operation is one of the most important for cases of this kind, being quick, easy and safe. In a case in which the child had been dead for five days, and the woman septic, I did a Porro, but death ensued. In a

Porro operation performed on a woman whose uterus ruptured while she was on her way to the hospital, there was but little bleeding and no shock, and the patient was well in three weeks. I agree with Dr. Morris as to the safety of the Cesarean section, unless the child is dead. I do not, however, see the value of draining through the abdominal wall, because if there is infection, the germs have penetrated the tissues and are beyond the reach of the drain; and if flushing is necessary it is best done through the vagina. To sum up, in aseptic cases, Cesarean operation is best; but in the septic do the Porro.

Dr. G. T. Harrison, New York: I agree with Dr. Morris' conclusions, but do not think that the classic operation is indicated in cases of placenta prævia or undilatable os. In these, vaginal Cesarean section is superior to the Saenger. The transverse incision through the fundus is not so apt to be followed by hemorrhage.

Dr. J. W. Bovée, Washington: Sterilization should only be done when life will be endangered by future pregnancies. The method of sterilization by ligating the tubes is uncertain. One should be certain that there are no supernumerary tubes and that the ligatures do not cut through them. It is necessary, too, to cover the cut ends with peritoneum to insure closure. Drainage of the uterus is best done by taking advantage of pendency, and, therefore, through the vagina with a stiff tube of considerable caliber. As to vaginal Cesarean section in the puerperal woman near full term, the vaginal wall is prepared by Nature for the passage of the fetus, and therefore, it is well dilated; but the operation adds traumatism, and in the closure of the wounds in emergency work one is very apt to make indiscriminate approximation of the structures resulting in a relaxed perineum.

Dr. L. C. Morris, Birmingham, Ala.: There is practically no mortality rate in Cesarean sections performed in aseptic cases. There are certain patients who die in spite of any procedure, but these are rare, and in the majority of cases drainage through the abdominal wall is best. I agree with Dr. Bovée as to the necessity for covering the cut end of the tube, but in these cases rapidity is a desideratum, and section between ligatures is reasonably safe. As to hemorrhage, the method described is very quick and absolute.

Sacral Hematoma.

Dr. E. T. Brady, Abingdon, reported a case of spina bifida converted into a hematoma during breech presentation, the breech presenting. It was supposed to be the bag of waters and an attempt was made to rupture it, but, fortunately, unsuccessfully. The tumor weighed 9 ounces, the baby 4½ pounds. The former was removed three weeks after birth and the latter is living.

New Treatment in Hypertrophied Prostate.

Dr. J. W. Hunter, Norfolk, discussed the Roentgen ray treatment for this condition and reported an apparently hopeless case in a man aged 81 who had been greatly improved and symptomatically cured. He thinks that the full physiologic dosage should be given. The patient is placed in Sim's position, and the perienum irradiated. He believes that the new treatment will be followed by brilliant results, though he considers it better suited to cases of the first or second degree of prostatic hypertrophy. It is without mortality and, in careful hands, free of danger.

DISCUSSION.

Dr. A. L. Gray, Richmond: We can not hope for much in *x*-ray treatment of hypertrophied prostate, because the increase of connective tissue overbalances that of the cells. If the reverse were true, then the rays would be of benefit. We should not consider a post hoc cure as a propter hoc. While it appears that Dr. Hunter's claim of a cure is good, we should wait for others before deciding the case affirmatively.

Dr. S. G. Slaughter, Lynchburg: Surgery of the prostate is, as a whole, disappointing; manual massage is disappointing. The static wave has, in my hands, produced symptomatic cures.

Dr. J. W. Hunter, Norfolk: I do not claim to cure every case of hypertrophied prostate or even a small percentage of them; I only give the result in my case in which surgery was contraindicated and medicines proved unavailing. With the rays there was a symptomatic cure. As to surgery of the gland, while in some hands it is successful, it is curious that so many patients have died one or two months after operation. There has been no mortality from the rays.

Two Cases of Mechanical Obstruction of the Bowel.

Dr. J. Shelton Horsley, Richmond: In one case there was a band which crossed the ileum about six inches from its termination. An artificial anus was made and two weeks later it together with several inches of intestine on each side of it, was excised and union made with sutures. Recovery was complete. In the second case there was volvulus of the sigmoid which had caused gangrene of all the sigmoid, the upper part of the rectum and most of the descending colon. Operation was performed under cocain, and the gangrenous bowel being excised, the colon was brought down where it was healthy and sewed in the upper corner of the wound. There was not a sufficient amount of healthy rectum left to do an anastomosis. The patient made a satisfactory recovery and left the hospital at the end of four weeks.

Some Further Applications of the Fowler-Murphy Method.

Dr. Southgate Leigh, Norfolk: I wish to emphasize the good results obtained from elevation of the patient while on the right side instead of on the back after operation for appendicitis. This position is almost as important as the elevation, and I have yet to see a case in which it did not aid drainage. Elevation is as applicable in operative work above the pelvis as in others. In septic cases the position is to be aided by salt solution in the bowels and by other measures as indicated. It should be especially appreciated by the country physician when immediate operation for appendicitis is impossible, as because of it infection is kept from spreading. It should be maintained in the transportation of patients to hospitals.

The Economics of Appendicitis.

Dr. W. L. Peple, Richmond: Appendicitis is to be considered from the standpoint of the patient, and such methods of treatment undertaken as will tend to lessen the stay in bed and minimize the chances of hernia, fistula, obstruction, etc. Second only to the saving of life is the big economic question of cost in time and money to the patient. To drain the abdomen of a working man is usually to drain the resources of his entire family. By a proper choice of incision in certain cases, the stay in bed may be cut down by weeks, and a hernia requiring another operation averted. We can not settle the question of drainage by failing to drain cases that demand it. In a large majority of drainage cases we expect recovery; the lay issue of saving life is not paramount, and we should, in these cases, do as little damage to the abdominal wall as possible and leave its cut or separated parts in such relation to one another that a good functional result may be confidently looked for.

Other Papers Read.

The following papers were also read: "Remarks on Direct Inspection of the Windpipe," Dr. J. A. White, Richmond; "X-Rays as a Treatment of Skin Diseases," Dr. T. W. Murrell, Richmond; "Herpes Gestationis," Dr. C. J. Andrews, Norfolk; "Diagnosis of Hysteria," Dr. B. R. Tucker, Richmond; "Case of Tetanus," Dr. H. C. Grant, Waynesboro; "The Medical Profession as Represented in the United States Navy," Dr. P. M. Rixey, Surgeon-General, U. S. N.; "Typhoid Bacilli Carriers," Dr. St. G. T. Grinnan, Richmond; "Some Phases of Tuberculosis Important to the Public," Dr. C. T. St. Clair, Tazewell; "Present-Day View of Arteriosclerosis," Dr. A. G. Brown, Richmond; "Hydrotherapy," Dr. J. C. Walton, Richmond; "Interdependence of Physicians and Surgeons," Dr. J. A. Hodges, Richmond; "Some Remarks on Coroners and Their Duties," Dr. J. W. Brodnax, Manchester; "Extensive Lacerations of the Cervix Uteri Involving the Parametrium—Their Significance and Treatment," Dr. G. T. Harrison, New York, N. Y.; "Treatment of Cancer," Dr. H. B. Stone, University of Virginia; "Carcinoma of the Breast," Dr. H. M. Taylor; "Stitching in Trachelorrhaphy," Dr. J. W. Henson, Richmond.

IDAHO STATE MEDICAL ASSOCIATION.

Sixteenth Annual Meeting, held at Boise, Oct. 8-9, 1908.

(Continued from page 1636.)

SYMPOSIUM ON ROCKY MOUNTAIN SPOTTED (TICK) FEVER.

Clinical Phases of Rocky Mountain Tick Fever.

DRS. J. L. STEWART and W. F. SMITH, of Boise, presented this paper, read by Dr. Smith. They stated in brief: Dr. E. E. Maxey, Boise, was the first to describe the symptoms of this disease. It usually begins with malaise, chilly sensations, occasionally a distinct chill, and general stiffness and soreness all over the body, especially in the back and legs. Occasionally there is headache and nosebleed. The tongue is coated with white fur, later becoming brown; it is dry, cracked in the middle, and has moist edges. Constipation is usually obstinate. The fever is of a continuous type, ranging from 100 to 104 or 105 F. The eruption appears in from three to five days, usually first on the back, ankles and wrists, spreading gradually to limbs and body, and to the palms of the hands and soles of the feet. Late in the disease the eruption may be seen in the mouth and throat. The rash at first consists of red maculæ, gradually becoming darker to brownish, then hemorrhagic, which appear in successive crops and coalesce and become blotchy, often forming large hemorrhagic areas. Delirium is frequent, the spleen is enlarged, bronchitis is frequent, with tendency to pneumonia in alcoholics, and in severe cases there is apt to be a semicomatose condition. Pulse is slow and full; urine is scant, high colored, occasionally hematuria, rarely albuminuria. Blood examination shows débris of broken down red blood corpuscles and iron pigment, slight leucocytosis; hemoglobin is reduced sometimes as much as 50 per cent. Complications noted are: Sloughing of scrotum, palate and pharyngeal mucous membrane, bronchitis, intense intoxication, cardiac dilatation, acute mania, and in later stages in aged patients there may be cyanosis. The period of incubation varies from five to seven days. The mortality is probably from 5 to 10 per cent.

Causal Factors, Mortality and Geographical Distribution in Idaho.

DR. E. E. MAXEY, Boise: From information received from ninety-five physicians of the state, from the state immigration commissioner, the state auditor's office, the state live stock commission, and other reliable sources, the following statistical information is compiled:

1. There are approximately 375 cases of spotted fever in Idaho yearly.
2. Ticks are reported found in every county except Latah. The ordinary wood tick seems to be the prevailing species.
3. Rabbits, gophers, coyotes, ground squirrels, badgers, and chipmunks are found in abundance over the entire spotted fever area.
4. Horses and cattle are found in large numbers in all counties.
5. Practically all sheep are fed, sheared, lambed, and grazed only in the fifteen lower counties.
6. At least 38 per cent., probably more, of cases occur among sheep herders or those handling sheep; 35 per cent. occur among those leading an outdoor life; 8 per cent. were miners or prospectors; 6 per cent. stockmen; 5 per cent. farmers.
7. All ages and both sexes are attacked, if exposed to infection.
8. History of tick bite has been found in 81.5 per cent. of the Idaho cases in which observation was made.
9. Seventy-one per cent. of the physicians who have treated spotted fever accept the tick-bite theory as method of infection; 29 per cent. had no theory or thought it due to *contaminated* water.
10. A majority of the cases occur in April and May.
11. The chief complications are meningeal irritation, pneumonia, nephritis, cardiac weakness, and gangrene of skin.
12. Death rate varies from 3.8 to 11.4 per cent.; the average mortality is 4.8 per cent.
13. The principal infected areas of the state are in Washington, Canyon, Ada, Elmore, Blaine, Lincoln, Cassia, Oneida, and Bannock counties; *less frequently* the disease is found in Boise, Owyhee, Twin Falls, Bear Lake, Bingham, Fremont, and Custer counties, very rarely in Kootenai county.

There is marked similarity in geographical distribution of spotted fever and the areas of the state occupied by the sheep industry; and in view of our present knowledge of relation of tick to this disease, this relation may be explained by one of two conditions: (a) Either the sheep, sheep-dog, horse, jack rabbit, gopher, ground squirrel, chipmunk, coyote, or badger, any or all of them, may be subject to spotted fever in Nature, the tick becoming inoculated by feeding on the sick animal, and then carrying the infection to man; or (b) great numbers of female ticks are infected by man during the spotted fever season and, through their progeny, carry the infection over to the following spring. In either case the sheep, dogs, and horses may act only as common carriers or distributors of the infected ticks.

Recent Investigations of Rocky Mountain Spotted (Tick) Fever in Montana and Idaho.

DR. H. T. RICKETTS, Chicago: Prior to April, 1908, my investigations demonstrated (1) that the character of the disease is a generalized invasion of the body by an as yet unrecognized and uncultivated micro-organism, as evidenced by the ability to reproduce the disease in guinea-pigs or monkeys by injecting patients' blood serum or by the bite of a tick, and by maintaining the disease in these animals by methods of passage, and also that the disease is exclusively an acute infection and recovery is followed by immunity; (2) that the disease is transmitted to man by the bite of a tick, the life history of the tick and its various relations to the disease were also definitely determined; (3) from the accurate knowledge thus obtained certain preventive measures have become manifest, that is, avoiding infected localities in the spring, individual precautions if compelled to visit infected areas, and measures to decrease the number of ticks, by oiling domestic animals and clearing off sage brush and timber and destruction of rodent animals. In the spring of 1908 I examined several Idaho cases and found that the clinical features of the Idaho disease were similar to those occurring in Montana, and I succeeded in inoculating guinea-pigs from these patients. At the same time guinea-pigs immune to the Montana disease were inoculated, with negative results, thus conclusively demonstrating the identity of the disease in the two states, the Idaho strain being apparently much milder. In May, 1908, I began experiments through which I have demonstrated that what seems to be the prevailing tick near Boise and Mountain Home, is capable of acquiring and transmitting spotted fever, and that the Idaho tick can acquire and transmit the Montana spotted fever. I also tentatively demonstrated that the Montana tick may acquire and transmit the Idaho disease.

In my Montana experiments this year I demonstrated that the gopher, ground hog, chipmunk, rock squirrel, and mountain rat are susceptible to spotted fever, and further that these animals may be sick with spotted fever and yet show no clinical features of the disease as does the guinea-pig. It is yet to be demonstrated what other animals are susceptible to the disease, and what animals, if any, actually suffer from the disease in Nature. The difference in virulence of the Idaho and Montana cases may be explained either through the difference in variety of tick or a difference in the animals which act as tick hosts in the two states. This and many other important features yet remain to be worked out.

Indications for State Control of Rocky Mountain Tick Fever.

DR. T. D. TUTTLE, Billings, Mont.: The disease first appeared in Montana in the spring of 1885, since when the number of cases has gradually increased, with a death rate of from 60 to 90 per cent. The disease probably appeared in Idaho before it did in Montana and infection very likely extended from Idaho to Montana. Tick fever is also found in Washington, Oregon, Wyoming and Utah. Dr. Emil Starz of Helena made the first scientific study in 1901 by examining the soil and water of the infected region, but with negative results. In 1902 Wilson and Chowning were employed by the Montana board of health to study the disease and their findings are well known. In 1903 Anderson was able to corroborate the findings of Wilson and Chowning. In 1904 Stiles made extensive studies, but was unable to confirm findings of Wilson and Chowning and Anderson, and in 1905 Francis' studies were entirely negative. In 1906 Drs. Ricketts and King took up the work. Both succeeded in inoculating guinea-pigs and in transmitting disease from guinea-pig to guinea-pig through the bite of a tick. Neither was able to find the hematozoa described by Wilson and Chowning. The life history of the tick was studied by Ricketts, and infected ticks were found in Nature. This work of further [illegible] shoul [illegible] by comp [illegible] men of national reputation, and at public expense of all states infected with the disease. To fight the disease we must eliminate the tick from inhabitable districts. This is probably best done by clearing off and settling the land for agricultural purposes, and in some localities by oiling all domestic animals.

Discussion on Symposium on Tick Fever.

Dr. J. R. Numbers, Weiser: Tick fever was first discussed by this association twelve years ago. I was firmly convinced that the tick was the principal factor in the inoculation of the disease. While Dr. Tuttle mentions the period of incubation in Montana as practically about seven days, it has been my observation in Idaho that the period of incubation is longer. Of course, most of the cases occur among people who are constantly exposed to tick bites. It is nothing unusual for some of them to have had on their person many ticks and many tick bites for weeks, and it is impossible in most of these cases to tell when the inoculation took place. But I have noticed that people who lived in town and would go out into the sage brush for a day and come home with one or two tick bites would often go for eleven or twelve days before showing evidence of disease. It is rare indeed for anyone living in town to have this disease unless they have made a recent visit to the foot-hills or sage brush plains. Twenty-one years ago Washington County was practically a cattle and horse country, for there were very few sheep in the valley. If sheep came into the county they came after the lambing and shearing periods and were driven right through up into the hills, and after a time of year when one was likely to get this fever. About three years after I went to Weiser, eighteen or nineteen years ago, the first case of spotted fever I ever heard of was reported in the Payette valley. I did not see any cases for two or three years more, but I heard of several cases over there each year, and it occurred to me that it was not a very serious disease or that they were very fortunate, as I had never heard of anyone dying at that time from it. My first patient came into the office just at the period when the eruption shows on the wrists and ankles and he had considerable fever, but his was not an aggravated case. After puzzling over it considerably and after I had told the man that I did not know what was the matter with him, it seeming to me to be more like an upside-down case of measles, an old man who happened to be in the office at the time and who had seen some of the other cases, said it was a case of spotted fever, and from that time on I knew spotted fever when I saw it. Now, about this time they were beginning to feed sheep and sheep were held around that locality in the spring until after lambing and shearing, and as soon as the sheep came we began to have spotted fever. Prior to that time, people had been going out into the sage brush and were bitten with ticks, but not until after the sheep were brought in did we have any spotted fever. The sheep herders and the people who were out in the sage brush were the first to get the disease.

For a few years after that there was spotted fever in the lower valley, but no cases in the upper valley. As those valleys were settled up and brought under cultivation, and sheep were driven up there during the lambing and shearing season, tick fever has been prevalent there; and, fortunately, there are fewer cases in the vicinity of Weiser. One or two things have occurred to me in regard to the severity of the disease. In the average person who has it, the sheep herders and young cattlemen, and young people in general, I have never noticed a fatal case, but in isolated cases, especially when old people are attacked, there is a heavy mortality. In these fatal cases the course of the disease is entirely different. The eruption shows up scarlet colored spots at first, followed by a dark mottling of the skin and a well-defined eruption, and very scanty urine. At first the patient is not very ill and the disease is usually allowed to run until by the time the physician sees the patient it is too late. There is absolute suppression of urine, a very small amount of high-colored urine being obtained by catheter; temperature is usually subnormal; and other conditions which result fatally in ten or twelve hours. In another class of fatal cases the disease attacks very stout people, and those who have a history of rheumatism. In the younger people of this class the temperature runs very high, the eruption coming out usually bright scarlet and becoming thicker and thicker until there is not the size of a pinhead that is not covered; after the fifth or sixth day delirium develops, apparently a profound toxemia and suppression of urine; and the disease is apt to prove fatal within two or three days.

Dr. L. P. McCalla, Boise: Dr. Ricketts' work has proved conclusively that the tick is the great if not the only factor in the case, though a great deal remains to be done along that line. This brings up the question of how we are to get rid of the tick. What can we as physicians do, and what can or should we ask the coming session of the legislature to do in the way of helping to study and eradicate this disease? Of course, the disease is not so fatal in this community as it is in Montana, but if we can get help from the legislature I think we could carry this work on.

Dr. J. M. Taylor, Boise: Dr. Maxey spoke of the disease being confined to the Snake River plains and to the Bear River valley, and I wonder if the Bear River valley in Utah is also an infected area. I have heard it suggested that the rabbit bears a probable relation to this disease, because it was a well-known fact that rabbits frequently disappear from certain localities for one, two or three years on account of some epidemic among them.

Dr. E. W. Kleinman, Hailey: I have seen three cases of spotted fever since returning from the recent session of the American Medical Association. The first occurred July 31 on the Malad River, the second on August 15 up the canyon near Hailey, and the third case on September 10. The first two patients got along nicely and the third one is still under treatment. Five years ago when I first came to this country, I was led to believe that this disease was to be seen only during the early spring months. A boy from Shoshone, where I was then located, was taken ill, and notwithstanding the fact that the people stated it was spotted fever and the attending doctor had so diagnosed the case, I had never heard of a case later than June, and I took occasion to criticize the diagnosis, but later developments have proved that the doctor was wiser than I.

Dr. E. E. Maxey, Boise: Infected areas extend down the Bear River valley into northern Utah, and the disease is rather commonly found in parts of eastern Oregon in the sage brush country. In the upper Snake River valley, the only cases reported from Fremont County were reported by Dr. Hargis of Ashton, near the eastern part of the county. He reports seeing an average of two cases annually, one-third of his patients gave history of tick bite and all died. Of course, there is a question as to diagnosis here, but I think Dr. Hargis' cases were probably of the Montana malignant type. Dr. Price of Rigby, near the southern boundary of Fremont County, reports having seen two cases within the last four years. Fifty per cent. of his patients gave history of tick bite and none died. Dr. C. Wardell Stiles, Washington, D. C., states in a communication that he recently had occasion to study a large number of ticks from the Bitter Root valley and to compare them with specimens from California. Up to this more recent study he had not been able to determine clearly between the Montana and California species, but with his present material it seems clear that the Montana tick of the Bitter Root valley, namely, *Dermacentor andersoni*, is entirely distinct from the California tick known as *Dermacentor occidentalis*. Dr. Stiles states further that he has examined few ticks from Idaho and is not prepared to commit himself to a definite statement, but that so far as his examinations have gone he believes the Idaho species to be distinct from the *Dermacentor occidentalis* of California, and to be closely allied to and possibly identical with the Montana tick *Dermacentor andersoni*.

Dr. H. T. Ricketts: I meant to state in speaking of the virus in the salivary glands that the presence of the micro-organisms were demonstrated by means of inoculation experiments. We have never been able to see the micro-organisms. Concerning the species of ticks, not long ago some time during the summer, I sent specimens to Dr. Stiles and Dr. Banks of Washington. Dr. Stiles replied that he thought the Idaho tick was different from the Montana tick, but would want to have more material before he could come to a definite conclusion about it. He stated again that the Montana tick is the *Dermacentor andersoni*. Dr. Banks responded, saying that the Idaho tick was certainly different from the Montana tick, so far as he could see an entirely different species. Dr. Banks recently published a new index of the ticks of the United States, in so far as they are known, and he differentiates between the Montana tick and the Idaho tick. Concerning the question of spotted fever in August, the disease does not occur in Montana after July usually, rarely in August and sometimes as late as October. The season for the adult ticks is in the spring. They are rarely found in Montana after July 1 and until February, but I have found them in Montana in September, but not many of them. The development of the tick depends on temperature and moisture; some develop more rapidly and some more slowly. In Idaho Dr. Maxey and I went out last spring during the spotted-fever season and we found some young nymphs on some of the gophers and adult male and female ticks on horses. It is certain, therefore, that some of these ticks would develop as adult ticks later in the summer. I was going to say something about the serum used in the treatment of these cases. It was taken from a horse. The infection of the horse was proved and the horse recovered, it being then bled to death in order to get as much serum as possible. The serum was given in small quantities and in large quantities, and in one case intravenous injection was resorted to. The number of cases treated in this way was too small to draw any definite conclusions. Usually the cases went through as though no serum had been given. We have no means of determining at present whether this is an antitoxin serum or not. We can not cultivate the organism, but if the serum happens to be an antitoxin serum it will probably be of great value in the treatment of spotted fever.

Dr. W. F. Smith, Boise: Dr. Maxey said that in some of the replies received by him some of the physicians adhered to the opinion that the disease was due to contaminated water. I was of that opinion until one or two things changed my mind. One patient went out to his sheep camp and I cautioned him about drinking the water out there, so he took a case of Idanha water along and drank nothing else, except of course in cooking and in tea and coffee. He had been out a great many times prior to this time, and on the other trips he had been drinking the camp water, but this time, though he drank none of the camp water, he contracted the disease. I told him if he had not drank the Idanha water he might have been all right. I also had the water examined on two occasions by a chemist in Salt Lake, and it was found to be absolutely pure and nothing was found in the water that could produce any trouble watever. The water examined was taken from the spring used by this camp. These things proved to me that the water supply had nothing to do with the disease. Another interesting case that I recall was that of a child who had not been out of town, but she had a pet lamb, and about a week after the lamb was taken to the house the child was taken down with spotted fever. The tick was found on the child and it must have been on the lamb. While most cases have occurred in April and May I have had cases in the latter part of August, several in February, and one case I went to in three feet of snow in a mountain town. I have never seen nephritis in any of the cases I have had.

Dr. T. D. Tuttle, Billings, Mont.: In regard to the sheep question, there seems to be something crooked in the condition. Either the tick is different in Montana and Idaho or the sheep are different. There are over 5,000,000 sheep in Montana, but they are all on the east side of the state, and on the west side, where we have spotted fever, sheep are rare. There is no spotted fever in the sheep district. It may be a tick here that lives on the sheep that transmits the disease. The special species of tick that live in Montana do not attach themselves to the sheep. If they did it would make the fight against the tick much harder. At present the experiment of oiling cattle would be comparatively easy to carry out. The question of getting anything from the legislature in the state should be gone into. Resolutions are good things, but they have not so much weight as a physician going to a legislator and saying what he thinks ought to be done. The family physician has great influence.

Ocular Manifestations of Some General Diseases.

Dr. R. L. Nourse, Boise: The eye, directly or indirectly, reflects or participates in a large number and variety of general or systemic diseases, particularly cerebral, cerebrospinal and constitutional affections. Among these are: The ocular manifestations of syphilis, both hereditary and acquired, through its effect on the brain and cord and the eye structures themselves; and the optic neuritis, papillitis and choked disc caused by cerebral hemorrhage, gummata, meningitis, brain abscess, hydrocephalus and brain tumors. Optic neuritis frequently follows infective diseases, and toxic amblyopias may be due to use of tobacco and alcohol. Heart and blood diseases, such as endocarditis, endarteritis and aneurism, may cause disastrous eye lesions from embolism and thrombosis. Pernicious anemia gives a characteristic eye ground. Rheumatism ranks next to syphilis in its responsibility for eye diseases, affecting nearly all structures of the eyeball. Arteriosclerosis, pyemia, gonorrhea, tuberculosis, scrofula and eczema are likewise prone to exhibit their baneful effects on the eye structures. Exophthalmic goiter and hysteria are noted for their eye symptoms, and the effects on the eye structures of diabetes and diseases of the kidneys are important.

Other Papers Read.

"A Plea for the Heart," by Dr. Susan E. Bruce, Lewiston; "A Case of Dextrocardia," by Dr. O. H. Avey, Payette; "Medical versus Surgical Treatment of Amebic Dysentery," by Dr. John M. Holt, U. S. Public Health and Marine-Hospital Service; "Hysteria; for the General Practitioner," by Dr. R. L. Gillespie, Portland; "Medical Journals," by Dr. K. J. A. Mackenzie, Portland; "Physiologic Therapeutics or Remedies Other than Drugs," by Dr. J. E. Froom, Boise; "Medical Aspect of the Use of Alcoholic Beverages," by Dr. J. M. Taylor, Boise; "Bilateral Twin Tubal Pregnancy," by Dr. L. P. McCalla, Boise; "Restoration of the Obliterated Cul-de-Sac for the Insertion of an Artificial Eye," by Dr. A. Blitz, Boise.

INTERNATIONAL CONGRESS ON TUBERCULOSIS.

Held at Washington, D. C., Sept. 28 to Oct. 3, 1908.

(Continued from page 1726.)

SECTION VI.—STATE AND MUNICIPAL CONTROL OF TUBERCULOSIS.

President, Surgeon-General Walter Wyman, Washington, D. C.; secretary, Dr. J. W. Kerr, Washington, D. C.

A Federal Bureau of Health.

Prof. Irving Fisher, Yale University, president of the Committee of One Hundred on National Health:

The Committee of One Hundred on National Health was organized in the Spring of 1907. Its aim is to secure a bureau or bureaus of health under the Federal Government, as it is believed that in this way tuberculosis and other diseases can be most successfully reduced. The committee has received the cordial support of President Roosevelt, the late ex-president Cleveland, Mr. Taft, Mr. Bryan, the governors of various states and senators and congressmen. Last summer the health plank of the Committee of One Hundred was adopted in the platforms of the Republicans, Democrats and Independence League. The Republican platform reads:

> We commend the efforts designed to secure greater efficiency in national public health agencies and favor such legislation as will effect this purpose.

The Democratic platform reads:

> We advocate the organization of all existing national public health agencies into a national bureau of public health, with such power over sanitary conditions connected with factories, mines, tenements, child labor, and such other subjects as are properly within the jurisdiction of the Federal Government and do not interfere with the power of the states controlling public health agencies.

The movement has the endorsement of the American Medical Association and other medical organizations, the American Public Health Association and other hygienic organizations, the United Mine Workers of America and other labor organizations. It is closely linked with the movement toward the preservation of our natural resources. In the peroration of President Roosevelt's famous speech before the conference on the Conservation of Natural Resources, he said:

> Finally let us remember that the conservation of our natural resources, though the gravest problem of to-day, is yet but part of another and greater problem to which this nation is not yet awake, but to which it will awake in time, and with which it must hereafter grapple if it is to live—the problem of national efficiency.

There already exists at Washington a Public Health and Marine-Hospital Service, but its work is chiefly confined to quarantine, to the care of sick sailors and to the examination of antitoxin at its hygienic laboratory. There is also the Bureau of Pure Foods, presided over by Dr. Wiley, and in the Census Office there is a Division on Vital Statistics. A proposition which has found favor with many in Congress is to utilize the Department of the Interior by transferring from it most of the bureaus not connected with health or education and to transfer to it the various scattered health agencies now in other departments. To the nucleus thus formed it is hoped to add a bureau of medical investigation and a children's bureau.

There is much difference of opinion as to the extent to which the Federal Government may constitutionally exercise health powers, but the committee is taking pains to avoid any controversy on this point by confining its recommendations to research and publication, entering into the field of regulation only so far as it affects interstate relations or the District of Columbia. It is hoped that the national capital may become a model city in sanitation as well as in other respects, in accordance with President Roosevelt's well-known plans. By holding up high standards in public and personal hygiene, the national government will aid in the national efficiency, not only directly, but by giving greater prestige and in stimulating to redoubled activity the work now being done by state and municipal boards of health. Public opinion holds sway in matters of health as elsewhere. It is largely for the purpose of impressing public opinion that these international congresses on tuberculosis are held. It is believed that a Federal organization of health, by persistently upholding health ideals and by the demonstration of methods of attaining and maintaining health, will keep the public interest from flagging.

First and foremost among the specific problems to be treated by this national organization is the problem of tuberculosis. At present circulars and pamphlets of information are issued by many state boards of health which might with greater advantage be issued by one authoritative central bureau and utilized by all. The circulation of such pamphlets, if issued by the Federal Government, would be far wider, the cost of distribution far less, and the authority and ability of those who write them would be much greater. Already the Bureau of Animal Industry in the Department of Agriculture has made important contributions to tuberculosis, not only by inspection of meats, but still more by the investigation of tuberculosis in dairy products, particularly butter. Several bills are now before Congress relative to tuberculosis and one was passed at the last session making compulsory the notification of cases of tuberculosis in the District of Columbia. The expansion of such work through a powerful national organization of health would not only give a great impetus to the crusade against tuberculosis but would utilize this crusade to bring about an improvement to American health generally.

Relation of the Proposed National Department of Public Health to Solution of the Tuberculosis Problem in the United States.

DR. CHARLES A. L. REED, Cincinnati: Tuberculosis alone causes the death of 140,000 persons and constant illness of two-thirds of a million more each year in the United States. The disease is preventable. The United States to-day has no national public health agency vested with power competent to cope with the evil. Both great political parties have committed themselves to the creation of such a national public health agency. President Roosevelt has signified his intention to bring to the attention of the Congress, at its session in December, specific proposals looking toward the correction of this unfortunate defect in our governmental organization. The object of my remarks is not to impress this Congress of scientists, for that is unnecessary, but I desire through this body to impress the people of the country with the extreme importance of supporting these proposals, to the end that lives may be saved and that science shall be given due honor in the practical government of men. The fundamental basis of prosperity is the productive energy of the people. It is the human factor, first, last and all the time that counts, but one that is taken all too little into account by publicists when they assume to talk learnedly on the great problems of national economics. I am confident that the chief national legislation of the immediate future will be based on the fact that a man's energy is his best asset, and that its full value depends on his health and his length of years. This movement is fostered, not only by human and economic considerations, but by the fact that the existing public health agencies established from time to time by our national government are insufficient and incoordinate and, to that extent and in consequence of that fact, are both unnecessarily expensive and disastrously inefficient in coping with this devastating evil.

In addition, they are scattered through the various departments of the government, and in consequence of this arrangement, or lack of arrangement, the Secretary of the Treasury is now the chief health official of the United States. The secretary of the Department of Commerce and Labor is in charge of the fundamental basis of a health department—the Bureau of Vital Statistics. The Secretary of Agriculture has the enforcement of the Food and Drugs Act, and also has charge of the Bureau of Animal Industry. The Secretary of the Interior is the sanitary administrator of the territories, of the Indian tribes and of the great national eleemosynary institutions. The Secretary of War has charge of the sanitation of our insular possessions, including the Isthmian Canal Zone. The Secretary of the Navy and the Secretary of War, under the advice and direction of their respective surgeons general, are, of course, in control, as they ought to be, of the health of, respectively, the navy and the army. Many other instances might be given to illustrate the fact that our national public health agencies, considered in the aggregate, are in no possible sense connected with a co-ordinating center or under the direction of an intelligent and purposeful centralized administration.

In considering the formation of a national department of health in relation to the control of tuberculosis, one of the first considerations is the limitation, under our form of government, of the state and national governments respectively. The laws in the various states are entirely inadequate and their complete lack of uniformity renders it impossible for the states to cooperate. And like laws by the states will probably not be enacted to any great extent until, under the initiative of the national government, the states shall send delegates to a representative body, a sort of council of states, which shall meet, as a legislature or the congress meets, in a session or sessions long enough to accomplish satisfactory results, and whose object shall be to formulate bills on various subjects and send them back to the legislatures for enactment. In this way alone can the states move with anything like satisfactory rapidity in meeting the crying demand, for like laws, for like conditions, not only as relates to great sanitary problems, including the problem of tuberculosis, but relative to many other problems that concern the economic and social welfare of the people.

Finally, we should attempt, through a council of states, to secure uniform state laws touching this and other important questions. We should have a strong federal public-health agency with which to do the national side of the work. The existing national public health agency could be assembled by transfer from the various departments in which they are now located into some one of the existing departments, and there organized under authority of additional law on the basis of highest efficiency. These agencies should be assembled in some existing department rather than organized into a separate and distinct department with representation in the cabinet. The fundamental importance of this health movement, as shown by this great congress, and by hundreds of other congresses and associations, demands that, for its fullest efficiency, it should be accorded the educational and moral force to be derived only from its titular recognition in the departmental scheme of our government. The two propositions fortunately are readily reconciled. This can be done by changing the name of the deparment in which the health agencies are assembled, thus avoiding the multiplication of cabinet officers. Thus, if it shall be found wise to make the Bureau of Vital Statistics the nucleus for the aggregated service, the name of the department in which it is located could be changed to that of "Commerce, Labor and Public Health." Or if it shall be deemed expedient to select the Department of the Interior the name of that department should be changed to that of Education and Public Health, which unlike the present title would mean and stand for something distinctive among our great national interests.

But I insist in the name of the medical profession, in the name of science, in the name of humanity, that a great governmental agency to conserve, as this one proposes to conserve, more lives, more homes, more property, and more money, than any other single agency in the whole plan of government, shall be accorded a status befitting its dignity and its worth to all the people.

SECTION II—CLINICAL STUDY AND THERAPY OF TUBERCULOSIS.

Rest and Exercise in Treatment of Tuberculosis.

DR. F. M. POTTENGER, Monrovia, Cal.: The functions of the body are best carried on when both rest and exercise in suitable proportions can be prescribed. The amount of each must be determined by the natural resisting power of the patient and the pathologic condition present. In prescribing rest and exercise the conditions of the respiratory, circulatory, digestive and muscular systems must all be considered, and special attention must be directed to the condition of the heart, and the ability of the patient to exercise without causing fatigue, increase of cough, shortness of breath, or rise of temperature. Exercise causes toxins to be thrown out into the blood stream, thus producing autointoxications which cause practically the same symptoms as injections of tuberculin; but owing to the fact that the dosage can not be controlled, and that the patient receives said dosage at a time when he is tired and not able to respond to his fullest capacity to the production of antibodies, the autoinoculation can not be considered a scientific method of administering bacterial vaccines. If work is to take the place of carefully prescribed exercise in the treatment of charity patients, it must be prescribed according to the needs of the individual, and the patient must not be permitted either to do hard work or to do more work than is consistent with his powers of endurance.

Ultimate Results of Sanatorium Treatment.

DR LAWRASON BROWN, Saranac Lake, New York: Of the first 300 patients at the Adirondack Cottage Sanitarium, 36 per cent. are untraced and only 10 per cent. of the last 2,400. Of the 1,209 patients now known to be living out of 2,553, 1,058, or 41 per cent. of the whole, are engaged in, or able to do, some work. Of these patients, 353 remain untraced, and if we consider only the 2,200 traced, 48 per cent. are able to work. Out of the 1,209 patients living, 87.5 are still able to work. Sixty-three patients who were discharged from fifteen to twenty-three years ago are still living. When it is considered that fifty years ago no one was ever thought to recover from pulmonary tuberculosis, results such as these are very encouraging.

Day Camp for Consumptives.

DR. DAVID TOWNSEND, Boston: Until recent years there has been little or no provision, in this country, for the type of tuberculous patient who, for one reason or another, is unsuitable for the incipient hospital or sanatorium, and yet is not sufficiently advanced to require treatment in an advanced hospital or home. Germany early recognized the necessity of some such place, and in 1900, largely through the efforts of Drs. Becher and Lennhoff of Berlin, the Red Cross Society opened a day camp for men at Jungfernhaide, near Berlin. In the summer of 1905, the Boston Association for the Relief and Control of Tuberculosis opened in Boston a similar camp, the pioneer one of its kind in this country. Another camp was operated in the summer of 1906, and in 1907 the camp was continued for eight months, closing Feb. 1, 1908. The equipment of these camps consisted of shacks and tents, for kitchen, administration, dining room and various other purposes. There were two nurses and a resident physician in attendance, a cook, two caretakers and several maids. The patients came for the day only, and were given two lunches and a dinner each day. The chief aim of the camp was educational, and much emphasis was laid on this side of the work. Each patient was taught the care of himself and how to prevent infection to others. A careful study of each patient was made and every effort exerted to relieve him from all worry and anxiety. Each patient was encouraged to confide in the matron and medical staff, and nothing was too trivial to receive attention.

Experience has taught that the day camp, when properly conducted, is of value, (1) on educational lines; (2) as it removes, for a time, the sources of infection from the home and the community; (3) as it enables cases which, although suitable for some reason or other can not go to a sanatorium to obtain proper care; (4) as it helps to complete the cure in some patients who have been discharged from a sanatorium. In addition, it has proven that a patient with tuberculosis is not hopeless until he dies. In many cases in the past the disease progressed and the patient died for no other reason than the lack of proper facilities for care. The *per capita* daily cost for an average daily attendance of 64, in 1907, was 51 cents.

(To be continued.)

Medicolegal

Observations of Physician While Collecting Are Not Privileged.

The Supreme Court of Missouri, Division No. 1, says that in the personal injury case of Chlanda vs. St. Louis Transit Co., where the whole trend of the plaintiff's case was to the effect that she could not walk without artificial aid, a physician was not permitted to testify that on a certain date, when he called at her residence relative to a bill for services in her behalf, he saw her walking without the use of crutches, and saw her go up a flight of stairs without their use. This was error.

Conceding that the witness was the plaintiff's physician at the time in question, yet the court thinks the offered evidence was competent. The statutory interdiction on the testimony of a physician or surgeon is salutary, but must be kept well within the banks of the prescribed statutory channel. He is incompetent to testify "concerning any information which he may have acquired from any patient while attending him in a professional character, and which information was necessary to enable him to prescribe for such patient as a physician, or do any act for him as a surgeon."

The offered testimony did not come within the letter or the spirit of the statute. The physician was making no professional call on the plaintiff. He was not seeking information to enable him to prescribe for her or do any act for her as a surgeon. Admitting that facts gathered for that purpose while acting in a professional capacity are a sealed book, yet in this instance he was neither acting in a professional capacity nor was the fact inquired about in any wise necessary to treat his patient. In the law, as to that fact, the physician was the same as any other bill collector possessed with eyes. According to the common sense of the thing the matter was plainly without the province of a physician, and he was therefore competent to testify.

Things Not Provable in Action for Professional Services.

The Supreme Court of Arkansas says, on the appeal of Henderson & Campbell vs. Hall & Hughes, that the latter parties, two physicians, sued the former, a firm of lawyers, alleging that said firm engaged the professional services of the plaintiffs to visit, examine and report on the physical condition of a woman client of theirs who was alleged to have been injured through the negligence of a railroad company, and that the plaintiffs performed such services, and for the same the defendants agreed that they would pay to them the sum of $200. The answer admitted the employment for the purposes stated, but denied that the defendants had agreed to pay the sum of $200, or any other certain sum, but alleged that they had agreed to pay the sum that the services would reasonably be worth. They alleged that the services were worth $34, but they tendered $40.

Under these circumstances it was permissible for either party to introduce evidence as to the value of the services. But it was error to admit testimony that the plaintiffs brought about a compromise for the defendants with the railroad company, and that their services were worth $200 to the defendants because they made their case for them and got a compromise for them, that being without the issues, and highly prejudicial. The suit was for recovery of the value of medical services, and not for services as negotiators of a compromise.

Likewise it was error to admit the testimony of several physicians to the effect that the plaintiffs' services were worth $200 because they were not ordinary services, and the further fact that the plaintiffs might have had to attend court as witnesses. As the case of the client was settled before this controversy arose, it was pure speculation as to what the physicians might have been called on to do had not the case been settled. They were called to render professional services in a physical examination of a woman, and were entitled to pay for the value of those services, and not for any speculative incidents that might or might not have followed from this service.

Power of Conductors to Employ Surgeons in Emergency Cases.

The Supreme Court of Arkansas says, in the case of Bonnette vs. St. Louis, Iron Mountain and Southern Railway Co., an action brought by a surgeon, that it was alleged a stranger had been run over at night, and seriously or fatally injured at a station many miles distant from the principal offices of the company and from the residences of its principal officers, and that the conductor in charge of the train, and as agent of the company, employed the plaintiff, a resident surgeon, to render professional services to the injured man, and that it was necessary to amputate both thighs, which was done, with assistance, acting at the request and under the employment of said conductor. The company demurred to the complaint on the ground that it failed to state facts sufficient to constitute a cause of action against the company as it did not state that the conductor had any authority to contract for the services in question and failed to state any facts that would bind the company for the contract of the conductor in employing the plaintiff. The demurrer was sustained in the lower court, but the Supreme Court holds that that was error.

The Supreme Court quotes from several cases, as it says, to show that the authorities whether in the case of a stranger and trespasser or of an employé and passenger hold the company liable for failing to exercise ordinary care to administer to the absolute needs of the ones whose unfortunate injury it has produced, notwithstanding it may have been without fault in producing such injury, and notwithstanding the injury may have been the direct result of the party's own negligence. In so holding the company liable in such an emergency, it will be observed that the rationale of the doctrine, whether in the case of a stranger and trespasser, or of an employé or passenger, is found in the duty imposed by the dictates of common humanity. The authorities stress the moral obligation and find from that the legal duty to alleviate as far as possible the suffering and to administer to the necessities which the company has contributed, however innocently, to produce.

This court confesses, if the duty and the consequent liability for failure to discharge that duty grow out of the obligations which the impulses of our common humanity would suggest and impose, under such circumstances, then the court does not see that the status or relationship of the injured to the party producing the injury could affect the question of the plaintiff's right to recover; for, from the humane viewpoint, clearly it could make no difference whether the helpless and unfortunate victim of the accident were trespasser, employé or passenger. But the court merely cites the cases referred to in order to show the extent to which the authorities have gone.

It was here a question of the authority of the conductor to act for his company. The emergency created that authority. Some one must have authority to represent the company under such circumstances. The conductor was the highest agent on the ground, and was in command of the train that did the injury. Before sufficient time had intervened to ascertain whether the accident was caused by the negligence of the company, he certainly had at least the implied authority to protect his company by doing what might be necessary to lessen the damages in the event it should be afterwards ascertained that the company was liable. This authority would be sufficient to bind the company for his contract with the surgeon, but not for the surgeon's contract with others.

Constitutionality of Law Providing for the Detention and Treatment of Habitual Drunkards as Persons of Unsound Mind.

The Supreme Court of Minnesota says, in the case of Leavitt vs. City of Morris, that there is a clear distinction between a person who gets drunk and an insane person, and that it may be conceded that one who is simply a drunkard, but is able properly to take care of himself, his family, and his property, and is not a menace to the public, cannot be committed to and detained in a hospital for inebriates without his consent, for the personal rights and liberties of such a person are guaranteed by the constitution.

But the state, in the exercise of its police power, has the undoubted right to punish drunkenness, and to provide for the detention and treatment in hospitals controlled by it of those who are habitual drunkards, and have so far lost the power of self control that they are either incapable of properly caring for themselves or are a menace to the public weal. The state has the power to reclaim submerged lands, which are a menace to the public health, and make them fruitful. Has it not, also, the power to reclaim submerged men, overthrown by strong drink, and help them to regain self-control?

The state for many years has punished drunkenness as a crime by a fine or imprisonment. The trend, however, of legislation is to treat habitual drunkenness as a disease of mind and body, analogous to insanity, and to put in motion the power of the state, as the guardian of all of its citizens, to save the inebriate, his family, and society from the dire consequences of his pernicious habit.

Chapter 288 of the Minnesota laws of 1907, entitled, "An act creating and establishing a hospital farm for inebriates," etc., is of such a character. It is not a penal, but a paternal, statute, seeking, not the punishment of the inebriate, but the safeguarding of his interests and the safety of the public, by treating him as, what he is in fact, a man of unsound mind, and placing him under the guardianship of the state, to the end that he may be healed of his infirmity.

This statute is limited to habitual drunkards—that is, to persons who have lost the power or will to control their appetite for intoxicating liquors or narcotics, and have the fixed habit of drunkenness, who are in need of care and treatment, and to those it would be dangerous to leave at large. The difference between such persons and insane persons is one of degree only, and they lawfully may be so treated by the state without any impairment of their constitutional rights. The term "inebriate," as used in this statute, "includes every species of chronic inebriety"; that is, habitual drunkenness. Hence an inebriate, as defined by the act, is an habitual drunkard.

Wherefore, the court holds that the general scheme provided by this statute for the commitment to and detention at a hospital farm, maintained and controlled by the state, of the class of inebriates designated in the act, is constitutional.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal.

November 5.

1 *Introduction of Surgical Anesthesia. W. H. Welch, Baltimore.
2 *Surgery of the Prostate. S. Alexander, New York.
3 *Total Extirpation of the Lower Pharynx for Epithelioma, with Permanent Esophagostoma: Surgical Treatment of Cancer. M. H. Richardson, Boston.
4 *Bursitis Subacromialis, or Periarthritis of the Shoulder Joint. (Subdeltoid Bursitis.) (Continued.) E. A. Codman, Boston.
5 Serum Treatment of Epidemic Cerebrospinal Meningitis, with Report of Twenty-two Cases. (Concluded.) F. T. Fulton, Providence, R. I.

1. **Surgical Anesthesia.**—Welch discusses the introduction of surgical anesthesia from a historical and philosophic viewpoint, and emphasizes its benefit to mankind.

2. **Surgery of the Prostate.**—Alexander cites his previous views and practice, as published in the *Annals of Surgery*, in 1905. He gives the reasons which, by the end of that year, led him to conclude either that the technic was deficient and drainage insufficient, or that his views in regard to the pathologic anatomy of prostatic suppurations were imperfect. These considerations led him to treat prostatic abscess by prostatectomy through a median perineal incision, enucleating the lateral lobes through the wall of the prostatic urethra. He analyzes the results of treatment in gonorrheal prostatic abscesses from 1905 to February, 1908, either by perineal section and drainage, or by prostatectomy. He discusses the symptomatology and describes in detail his present operation. In no case has he found any complaint in regard to the character of the erection or the ability to have sexual intercourse. The sensation is not impaired, but the discharge of seminal fluid at the time of the orgasm is entirely absent. He has not altogether abandoned perineal section and drainage, but considers prostatectomy better practice in most cases.

3. **Cancer.**—Richardson holds that we must confine new methods—trypsin, *x*-ray, toxins, etc.—to inoperable cases, for he has seen many operable and favorable cases drift under them to inoperability and death.

4. **Bursitis Subacromialis.**—In this issue Codman continues the discussion of this subject in respect of prognosis and treatment.

Medical Record, New York.

November 7.

6 *Development of the Legal Relations Concerning the Insane, with Suggestions for Reform. A. M Hamilton, New York.
7 *Operative and Non-operative Fibroid Tumors of the Uterus. F. D. Reese, Cortland, N. Y.
8 *Bituminous Coal Smoke: Its Chemistry and Effects on the Health of Man and Plants, Works of Art and Commerce. J. W. Wainwright, New York.
9 Chronic Purulent Otitis Media. A. Wiener, New York.
10 Fracture and Dislocation of the Neck at the Sixth Cervical Vertebra in a Man of 60. Recovery. G. H. Williams, Fishkill-on-Hudson, N. Y.
11 Important Flatfoot Facts: for Assimilation and Dissemination. E. A. Tracy, Boston.

6. **Legal Relations of the Insane.**—Hamilton makes the following recommendations:

1. There should be obligatory information of the commissioner in lunacy in regard to the existence of all cases of insanity.
2. Though the commissioner in lunacy may have power to license private institutions, he should also be empowered to formulate additional requirements which would put some of them on a much higher standard than they occupy at present.
3. Commitments are chiefly to be looked on as reinforcements by the judge of the persuasions exerted by the friends, physician and family of the patient, and should be resorted to only when the latter can not be persuaded to go to the asylum.
4. Everything should be done to make the appeals of committed patients available. There should be severe punishment for the suppression of letters, or interference in any way with the alleged lunatic's rights.
5. There should be material refor[illegible] f the law regarding capacity and criminal [illegible] acts in themselves, in any relation they ma[illegible] re weight than heretofore.
6. There should be a departure from conventions in old and arbitrary definitions.
7. Special insane acts should be studied with reference to the crime itself in a way they have not been studied up to this time.
8. The attitude of the courts should be much more charitable to the medical witness than it is to-day, the intelligent medical man being put in possession of all the facts in the case and not being obliged to answer restricted questions which place him in a false position, and which are deficient in the presentation of the facts.
9. In all matters involving the determination of capacity or responsibility the medical man should be required to prepare a brief which should form the basis of his cross examination, and this, if necessary, must be supported by extraneous evidence, which has received the sanction of the court as to heredity, previous history, and facts communicated by others.

7. **Non-Operative Fibroids.**—Reese concludes that dysmenorrhea always calls for a thorough examination of the pelvic organs in uterine fibroid. Surgical treatment should be instituted only on a clear diagnosis and a positive indication. Mixed tumors of the uterus should be removed as soon as diagnosed. Simple fibrous tumors, save in exceptional cases, are amenable to constitutional and local treatment, and so do not demand operation.

8. **Bituminous Coal Smoke.**—Wainwright insists that bituminous coal smoke materially interferes with the welfare of the community: 1, By leading to fog and rain; 2, by shutting out sunlight and depriving us of certain qualities of light, of great importance in regard to changes in organic matter; 3, by depositing soot. He urges its suppression because a smoky atmosphere, by its exclusion of light, its content of suspended acid and irritating particles, is harmful to the tissues of the nose, throat, eyes, and especially the lungs and air passages, whether in a healthy or other condition; aggravates the discomfort of those suffering from all forms of heart disease; increases the distress of those who have nervous complaints; lowers the tone of the general health; is a peril to the aged; and diminishes buoyancy of spirit, as well as reduces still further an already lowered resistance to disease.

New York Medical Journal.

November 7.

12 *Reflex Neuroses Arising from Ocular and Nasal Abnormities. S. L. Zeigler, Philadelphia.
13 The Mechanico-biologic Standpoint in Medical Problems. J. Wright, New York.
14 Purposes and Objects of Morbidity Statistics and the Methods of Collecting Them. J. M. Eager, U. S. Public Health and Marine-Hospital Service.
15 *The School Child. J. W. Van Derslice, Oak Park, Ill.
16 Ancient Greek Medicine. C. W. Super, Athens, Ohio.
17 *Obstetrical Paralysis. K. Osterhaus, Norfolk, Va.
18 Cause of Premature Separation of the Placenta. S. Robbinovitz, Brooklyn, N. Y.

12. **Reflex Neuroses.**—Ziegler discusses the influence of the eye on reflex neuroses, the nasal origin and individual manifestations of reflex neuroses—headache, migraine, localized muscular spasms, chorea, minor epilepsy, gastric neuroses and neurasthenia—with illustrative cases. He concludes:

1. The eye and the nose are undoubtedly most important factors in the etiology of reflex neuroses, and should, therefore, be carefully examined and positively excluded before beginning a search for other causes.
2. Ocular and nasal reflexes possess many manifestations in common, which should be carefully differentiated at the earliest possible moment.
3. Eyestrain, whether from ametropia, subnormal accommodation or muscular imbalance, should be carefully corrected in order to eliminate the eye as a causative factor.
4. An atrophied eyeball, with contracting ciliary scar, should be enucleated.
5. Pressure contact in the nose will always excite some reflex disturbance when any hyperesthetic area is impinged on, and should, therefore, be eliminated.
6. Every obstruction to free breathing should be removed.
7. Recurrence of any reflex neurosis demands re-examination and renewed search for the original exciting cause.

15. **The School Child.**—Van Derslice says that the development of the intellectual capacity is only a small part in child education. The development of character and of physical welfare is also vastly important. Some of the contributing factors of stress and strain of the school child lie in the child, such as hereditary dyscrasia, physical, mental and moral conditions, home environment, the artificial life in large cities, disorders of nutrition, etc. In the school are found conditions of school buildings, sanitation, improper desks and seats, lighting, ventilation, type and paper of text-books, lack of recreation, hours of confinement, lessons, schedule, etc. Physical and mental lassitude should not be dogmatically attributed to the amount of work. Investigation should be made in the other directions also. He discusses the hygiene of the home, food, regular duties and responsibilities, employment, lack of harmony between the parents and the public school, social distraction during school life, sanitation of schools, infectious diseases and curriculum, and says that the over-

crowding of the curriculum is due to three causes: 1, every child must take all the work, regardless of personal or individual need; 2, whatever the last generation had must go into the curriculum of the present one; 3, domination by the colleges.

17. **Brachial Birth Paralysis.**—Osterhaus discusses the nature, pathology, varieties—upper, lower and total arm paralysis—diagnosis, prognosis and treatment of this form of paralysis. He considers that to wait at least a year or two years after the onset of the paralysis before operating would be entirely proper, as not only would the operative field be enlarged, but the danger of shock will be lessened. He repeats Taylor's description of the operative technic. It occurred to him that the application of the principle of bridging nerves might be of service by allowing scar tissue to take the place of the catgut strands commonly employed. To this end the nerve junction was carefully lifted on two fingers, the nerve sheaths having been previously split up for a considerable distance above and below, and with a fine sharp tenotome the nerve fibers constricted by the cicatricial bands were thoroughly dissociated. Cargile membrane was then applied loosely and the wound closed. The return of function which followed was almost startling in its rapidity. The theory that the regenerating axis cylinders will use the strands of degenerated nerve fibers and scar tissue as bridges on which to extend themselves, similarly to vines on wire, certainly seems sound, and it only remains to prove or disprove this theory in actual practice. He urges a thorough trial of this method in all cases of nerve injury.

Lancet-Clinic, Cincinnati.

October 31.

19 The New Pathology. M. Whitacre, Cincinnati.
20 Syphilitic Crises Simulating Surgical Emergencies. M. A. Austin, Indianapolis.
21 Pre-Cancerous Influence of Gastric Ulcer. W. D. Haines, Cincinnati.

Archives of Internal Medicine, Chicago.

September.

22 *Histoplasmosis: A Fatal Infectious Disease Resembling Kala-Azar, Found Among Natives of Tropical America. S. T. Darling, Canal Zone, Panama.
23 *Influenza and Influenzal Pneumonia. D. J. Davis, Chicago.
24 *Heart Block in the Ventricular Walls. A. W. Hewlett, San Francisco.
25 Rôle of Ferment Reversions in Metabolism. A. E. Taylor, San Francisco.
26 *Blood-Pressure Lowering Reflexes from Irrigation of the Chest in Empyema. J. A. Capps and D. D. Lewis, Chicago.
27 *The Volume and Specific Gravity of Organs. S. L. Olsho, Philadelphia.
28 *Ocular Tuberculin Reaction. L. F. Frissell and P. Van Ingen, New York.
29 Parasites Found in New York City. H. S. Patterson, New York.
30 Multiple Ependymal Glioma. P. Bassoe, Chicago.

22. This article was commented on editorially in The Journal, Oct. 3, 1908, p. 1159.

23. **Influenza and Influenzal Pneumonia.**—Davis arrives at the following conclusions:

1. In many epidemics of clinical influenza or grip, the influenza bacillus plays little or no part as an etiologic organism.
2. These epidemics appear to be due to a variety of organisms—the *Pneumococcus, Streptococcus pyogenes, Streptococcus mucosus*, and *Micrococcus catarrhalis* being most commonly found in the secretions. An organism morphologically and culturally identical with meningococcus was found in one case.
3. Complications following these cases are often serious and usually due to *Pneumococcus, Streptococcus pyogenes* and *Streptococcus mucosus*.
4. The influenza bacillus is often found in so-called influenzal pneumonia, but not in all cases. It can not be considered the primary cause. An abundant mixed bacterial flora is characteristic of the respiratory secretions in these cases.
5. Influenza bacilli are commonly found in a great variety of infections.
6. Experiments both on animals and on human beings demonstrate that these bacilli possess pathogenic properties. They are often, or at least sometimes, non-virulent as they occur in the secretions.
7. As secondary invaders they undoubtedly unfavorably influence other primary infections.

24. **Heart Block.**—Hewlett reports clinical observations which lead him to the following conclusions:

1. Ventricular contractions may cause waves on the jugular pulse with little or no effect on the apex beat.
2. Such contractions may be followed immediately by normal contractions without a diastolic period.
3. The right ventricle may begin its contraction distinctly later than the left.
4. In his own case these were largely strophanthin effects.
5. They are probably to be interpreted as instances of intraventricular heart block.

26. Abstracted in The Journal, June 6, 1908, p. 1930.

27. **Volume and Specific Gravity of Organs.**—Olsho recommends for the determination and accurate registration of the size of any organ, the following plan: Each organ as it is removed is submerged in a vessel filled with water to a level at which an overflow is provided. The water displaced overflows into a container graduated in cubic centimeters; the amount so obtained represents the volume or displacement of the organ in cubic centimeters. The organs are weighed in grams; the weight divided by the displacement, equals the specific gravity. The heart is submerged opened or unopened. A "voluminous" emphysematous lung is pressed beneath the surface of the water by a rod thrust into the bronchus. Olsho gives results from 100 postmortems at the Philadelphia Hospital, in relation to the heart, kidney, liver, spleen and lungs, to determine the practical value of the method suggested, and on these examinations he bases the following conclusions:

1. Parenchymatous degeneration lowers the specific gravity of organs proportionately to the degree of parenchymatous change.
2. Fibrotic change, while diminishing the volume of the organ, also raises its specific gravity proportionately to the amount of fibrosis.
3. Although useful in systematic studies of all organs, the specific gravity records are most striking in pulmonary affections.

28. **Ocular Tuberculin Reaction.**—Frissell and Van Ingen classify the results of other observers and report the results of their own experiments in 166 cases, from which they reach, in brief, the following conclusions:

1. In apyrexial cases the test has the same value as the subcutaneous method. In pyrexia the conjunctival method is alone applicable.
2. So specific a reaction as the tuberculin probably indicates in all cases the presence of tuberculosis.
3. The method appears to be particularly helpful in the case of children.
4. In cases without symptoms it is perhaps safer at present to accept the reaction as a danger sign.
5. A negative reaction by no means excludes a diagnosis of tuberculosis.

American Journal of Obstetrics, York, Pa.

October.

31 *An Experimental Study on Hemorrhage Following Section of the Uterine and Ovarian Vessels in Dogs and Its Possible Bearing on Ruptured Pregnancies. H. Robb, Cleveland.
32 *Superiority of Primary Over Secondary Cesarean Section. S. P. Warren, Portland, Me.
33 Fourteen Cases of Cesarean Section. J. O. Polak, Brooklyn, N. Y.
34 *Infarction of Renal Cortex in Pregnancy. O. Klotz, Montreal.
35 *Ovariotomy During Pregnancy. C. G. Cumston, Boston.
36 Vincent's [illegible] Pregnancy. F. Royer, Philadelphia.
37 Case of [illegible] acenta and Membranes Involved. H. R. [illegible] Ala.
38 *Causes o [illegible] ussig, St. Louis.
39 Criminal Abortion. H. H. Jackson, Houlton, Me.
40 Artificial Infant Feeding for the General Practitioner. G. R. Pisek, New York.
41 *Angioneurotic and Other Examples of Essential Edema in Children. M. Schwarz, New York.

31. Abstracted in The Journal, July 4, 1908, p. 71.

32. **Superiority of Primary Over Secondary Cesarean Section.**—Warren discusses the paper by Reynolds of Boston at the 1907 meeting of the American Gynecologic Society (*Boston Medical and Surgical Journal*, Oct. 31, 1907, abstracted in The Journal, Nov. 16, 1907, p. 1714), in which he favors delivery by an elective abdominal section, rather than by a difficult intrapelvic operation, either at term or prematurely. Warren, while agreeing that deformities of the pelvis, absolute in fractions of inches or centimeters, or relative in connection with large children, are much more frequent than is ordinarily expected, asserts that it is not to be expected that the general practitioner will spend much study over fractional differences in pelvic diameters. The refinements of pelvimetry and facility in the use of complicated pelvic calibrators are for the expert. From a fairly extensive acquaintance with the obstetrical work of the general practitioner, he is convinced that most of the mishaps of delivery are due, not so much to simple pelvic insufficiency as to failure to recognize, before operation, malpositions of the presentation or that the child is too large for even a normal pelvis. The conscientious practitioner will remedy either of these two mistakes by careful study of conditions and environment; the other man will never rise to the level of science or art, and will always be content with brute force.

34. **Infarction of Renal Cortex in Pregnancy.**—Klotz gives the clinical history and postmortem findings in such a case,

and compares them with three other reported cases of a similar character and discusses the causation. He does not agree that an endocarditis was the causative factor in his case, but believes from the clinical evidence of rapidly developing suppression, and from the microscopic picture of the granular thrombi, that the thrombosis occurred simultaneously in all the renal vessels, as a result of certain metabolic changes of secretion in pregnancy. What these changes are he can not venture to say, but, as a result, there has occurred a dissolution of the red-blood cells in this particular part of the arterial tree, and the débris—and possibly the agglutination of these cells—has led to a plugging of the smaller arteries. To be exact, this process is rather an embolic one, coupled with thrombosis, and is similar to the agglutinated red-cell thrombosis in the liver. Evidence is lacking to assert that an increased coagulability of the blood had been produced in this portion of the arterial system and had led to a blocking of the cortical arterial stream.

35. Abstracted in The Journal, Oct. 24, 1908, p. 1458. Also published in the *Journal of Obstetrics and Gynecology of the British Empire*, September, 1908.

38. **Causes of Abortion.**—Taussig points out that the causes of abortion are usually considered in an unsystematic and illogical way. We must endeavor to differentiate between conditions of the uterus which predispose to such an expulsion of the ovum, and conditions which excite the uterus to get rid of its contents. He proposes the following classifications. The predisposing causes are:

1. Increased sensitiveness to nerve irritation (temperament, frequent abortions, menstrual period).
2. Greater tendency to placental thrombosis (inflammation of endometrium, congestion).
3. Lessened resistance to expulsion (cervical tears or amputation).

The exciting causes are:

1. Mechanical Irritation: (a) transmitted (blow, fall, dancing, railroad journey, lifting heavy objects, constipation); (b) direct, (1) to outside of uterus (adhesions, malposition, tumors, examination, laparotomy); (2) to inside of uterus (instruments, hemorrhagic exudates, hydramnios, tumors).
2. Thermic Irritation: (a) general (sea bath); (b) local (hot douche, sitz bath).
3. Toxic Irritation: (a) chemical toxins (ergot, carbon dioxid, lead-poisoning); (b) bacterial toxins (maternal smallpox, measles, etc.); (c) placental toxins, hyperemesis, chorea, eclampsia.
4. Nerve Irritation: (a) psychic (fright, pain, shock); (b) reflex (external genitals, breast, nose).
5. Death of Fetus: (a) congenital inanition (illness of parents, alcoholism, too frequent coitus); (b) congenital deformities (primary in ovum, amniotic adhesions); (c) interference with nutrition: (1) maternal (anemia, tuberculosis); (2) placental (mole degeneration, thrombosis); (3) umbilical (twisted cord, true knot, constrictions); (d) infectious diseases (syphilis, smallpox, typhoid, pneumonia, etc.); (e) hyperpyrexia.

41. **Essential Edema in Children.**—Schwarz discusses the prevailing theories as to the physiologic and pathologic factors which enter into the formation of both local and general edema. He discusses only those varieties of essential edema which he has personally observed, and reports five cases, the last, one of acute circumscribed edema. Many cases of this condition are of unknown origin and have to be classed as idiopathic. As to symptoms, the skin may be normal, but usually there is a pinkish white glassy appearance, moreover, the parts are elastic. The involvement of the upper respiratory passages interests the pediatrician and the laryngologist. In the nose the disease resembles hay fever in sudden onset, but there is little sneezing and no excessive secretion. In the larynx, it constitutes one of the dangers of the disease, the attacks of edema usually coming on during sleep, but sudden dyspnea may occur at any time. In the lungs it may give rise to acute edema. As abdominal symptoms, colic, vomiting and diarrhea are noted. The kidney may be involved, slight traces of albumin and even blood being present. Transient aphasia may be due to the transient edema. Schwarz discusses its differentiation from giant urticaria, Osler's symptom-complex of exudative erythema with visceral lesions, exophthalmic goiter, purpura and the hysterical edemas. The prognosis is usually good, edema of the larynx being the only cause of death. Abdominal symptoms are often severe. Morphin seems to be the only thing that helps. Scarification and application of suprarenal extract to the edematous parts is recommended in edema of the larynx. Tracheotomy may be necessary. Avoidance of predisposing articles of diet and relief of constipation are prophylactic measures.

American Journal of Physiology, Boston.

October.

42 *Excretion of Kreatinin and Kreatin in Health and Disease. P. Shaffer, New York.
43 Improved Outflow-Recording Apparatus. C. J. Wiggers, Ann Arbor, Mich.
44 Action of Curara and Physostigmin on Nerve Endings or Muscles. C. W. Edmunds and G. B. Roth, Ann Arbor.
45 Action of Barium Chlorid on the Fowl's Muscle. C. W. Edmunds and G. B. Roth, Ann Arbor.
46 *Adjustment of Paramecium to Distilled Water and Its Bearing on the Problem of the Necessary Inorganic Salt Content. J. F. Daniel, Baltimore.

42. **Excretion of Kreatinin and Kreatin.**—It has been usually believed that since kreatinin and kreatin are closely related chemically, one might easily be transformed into the other in metabolism, and that the kreatinin of the urine might be derived either from kreatin ingested in meat or formed in the muscle. Shaffer, using Folin's method, has estimated the kreatinin and kreatin in the urine in both normal and pathologic conditions. He reaches the following conclusions:

1. The amount of kreatinin excreted by strictly normal individuals is between 7 and 11 mg. kreatinin-nitrogen per kilo of body weight. The amount excreted by any one individual is constant, not only from day to day, but from hour to hour; and the amount is independent of the volume of urine as well as of the total nitrogen.
2. The kreatinin excretion [illegible] usually low, varying from the normal to [illegible] per kilo of body weight in twenty-four [illegible] kreatinin-nitrogen per kilo—the kreatinin coefficient—shows a direct parallelism with the muscular development or strength, or "muscular efficiency," of the individual.
3. Kreatinin is not an index of the total endogenous protein katabolism. Individuals with exophthalmic goiter and others in whom the total endogenous katabolism is probably much increased may excrete very little kreatinin.
4. Kreatin is derived from—and its amount, expressed in milligrams per kilo body weight, is an index of—some special process of normal metabolism taking place largely, if not wholly, in the muscles. On the intensity of this process appears to depend the muscular efficiency of the individual.
5. The kreatinin excretion is slightly increased in acute fevers, and in this condition does not run parallel to the muscular efficiency of the individual.
6. Kreatin is not a normal product of endogenous metabolism, and is not present in normal urines, unless the individual has taken kreatin with the food.
7. Kreatin may be excreted by individuals with acute fevers, in the acute stages of exophthalmic goiter, in other conditions in which there is a rapid loss of muscle protein, and by women during the postpartum resolution of the uterus.
8. The source of endogenous kreatin is probably the kreatin of the muscle tissues, and its appearance in urine probably indicates that muscle protein is being absorbed.

46. **Adjustment of Paramecium.**—Daniel's investigations indicate that the destructive action of distilled water on animal organisms is due to the sudden change in media. Great difference in the power of resistance to this action is shown by different organisms. Organisms transferred gradually lived for days without food in a purer water than it took to kill the control animals suddenly subjected to it. The difference in resisting power may explain the differing results reported by various observers. The adjustment of animals to the conditions under which they live, and their power of becoming adjusted by a slow process to new conditions is one of the most important matters requiring consideration in dealing with the effects of environmental agents.

American Medicine, Burlington, Vt.

October.

47 Chronic Constipation in Infants and Children. L. Kerr, Brooklyn.
48 Adrenalin Therapy. S. Floersheim, New York.
49 *Secondary Nephritis, with a Case of Transplacental Typhoid Infection. J. O'Malley, Philadelphia.
50 The Pupil in Extraocular Disease. H. C. de V. Cornwell, New York.
51 French Clinics in Neurology and Psychiatry. T. A. Williams, Washington, D. C.
52 Hot Baths at Hot Springs. M. R. Richards, New York.
54 Tuberculosis Apparently Cured by Accidental Inhalation of Lime Dust. S. C. Boston, West Grove, Pa.
55 Middle Ear Aspirator. P. R. Wood, Marshalltown, Iowa.

49. **Secondary Nephritis.**—O'Malley presents cases of secondary nephritis and draws attention to the necessity of watching the kidneys in the relapse of infectious diseases, especially typhoid. These apparent relapses are often nephritic affections, and not a recurrence of the original disease. We should be as careful in other infectious diseases with regard to the kidneys, as we are in scarlatina.

Iowa State Medical Journal, Des Moines.

October.

56 *Oration on Medicine, Iowa State Medical Society. J. M. Emmert, Atlantic.
57 *Principles of the Treatment of Peritonitis Based on Physiologic and Pathologic Conditions. W. B. LaForce, Keokuk.
58 *Toxemias of Pregnancy. J. F. Herrick, Ottumwa.
59 The Newspaper and the Advertising Quack. E. J. Butterfield, Dallas Center.
60 Diphtheria Antitoxin in Treatment of Exophthalmic Goiter. H. T. Walker, Dubuque.

56. **Oration on Medicine.**—Emmert discusses the recent advances in medicine, the crusade against venereal disease, and the treatment of mental defectives, degenerates, criminals, etc.

57. **Peritonitis.**—LaForce discusses the anatomy of the peritoneum, the pathology and bacteriology of peritonitis, and the question of drainage and material. He considers the following helpful processes of inflammation: Hyperemia, serum exudation, fibrin formation chemiotaxis, leucocytosis, lymphangitis and thrombosis, and granulation tissue, and shows how they offer indications for treatment. He also discusses the part played by the omentum, the peritoneal endothelial cells, and the antiperistaltic power of the large intestine, in relation to the process of absorption.

58. **Toxemia in Pregnancy.**—Herrick, in summing up his paper, says that the disturbances of pregnancy are with few exceptions caused by toxemias. The toxins have their origin in the increased metabolism of the mother, the enormous waste of a rapidly growing child, and in all probability partially in the chorionic tissue of the placenta. The normal woman with her reserve capacity to deal with excess of waste passes these ordeals unscathed. Her less fortunate sister has less capacity and is overwhelmed by the excess of toxic materials. Just where the failure lies is a matter of debate, but recent observations and experiments point to a failure of the anabolic and catabolic processes in the body which are carried out by ferments. In other words, there is a failure in the production of the necessary ferments to break down these wastes for elimination. This failure is not due primarily to disease of the kidney or liver as is commonly believed, but these organs suffer with all others from the toxemias. Rational treatment of these conditions should look to the correction of metabolic faults and the increase of the tissue ferments, the free and rapid elimination of wastes by occasional doses of mercurials followed by large doses of magnesium sulphate together with a free laxative effect, produced preferably with magnesium sulphate, which may be given in small doses every morning or even in dram doses two or three times a day with plenty of water. This, with plenty of water at all times, and possibly intestinal antiseptics, will relieve many patients. In diet the proteids should be reduced to the lowest possible quantity. Fruit and vegetables, with milk and cereals, should constitute the chief support of the patient. An exclusive milk diet is necessary at times. The facts that imperfectly developed or diseased thyroids are found in many cases and that extirpation of the thyroids in pregnant animals produces albuminuria and toxemias, would suggest the use of thyroid extracts. Care should be taken in their administration, since they are among the most powerful therapeutic agents known. Finally, the author believes that by careful observation and management eclampsia may be prevented.

California State Journal of Medicine, San Francisco.

October.

61 *What Is a Practical Examination in Anatomy? D. L. Tasker, Los Angeles.
62 *Prognosis and Treatment of Tuberculous Laryngitis: An Analysis of Sixty-one Cases. F. M. Pottenger, Monrovia.
63 *Treatment of Aneurism by Direct, Gradual Arterial Closure. R. T. Stratton, Oakland.
64 The American Medical School and Its Entrance Requirements. D. S. Jordan, Palo Alto.
65 Legal Aspect of an Incision, Especially of an Abdominal Incision. H. J. Kreutzmann, San Francisco.
66 A Normal Labor. W. M. Barrett, Redwood City.
67 Preretinal Hemorrhage. C. S. G. Nagel, San Francisco.
68 Bacteriology and Pathology of Plague. W. B. Wherry, San Francisco.
69 The Ocular Tuberculin Reaction. E. F. Glaser, San Francisco.
70 The Housing Problem. T. Coffey, Los Angeles.

61. **Anatomy.**—Tasker quotes a number of answers given at the state board examination to questions on anatomy, to demonstrate the distorted ideas of the human frame held by many practitioners. He has devised a plan of examining whereby the candidate could use his practical knowledge, instead of perhaps losing his bearings in descriptive terminology. To this end a rubber stamp was made of an outline cut such as those used for clinical records. The candidate was asked to outline the heart and liver on this cut. Tasker reproduces nine answers for ocular demonstration to the profession that there is something radically wrong in the teaching of anatomy and that the most practical questions in the whole examination bring forth absolutely staggering answers.

62. **Tuberculous Laryngitis.**—As a result of an analysis of 61 cases Pottenger arrives at the following conclusions:

1. When tuberculosis of the larynx is diagnosed early the prognosis is about the same as in tuberculosis of the lung when diagnosed early.
2. Chronic thickening of the larynx always calls for careful expert examination of the lungs, to determine the presence or absence of pulmonary tuberculosis, and if the latter is found, the evidence is strongly in favor of the tuberculous nature of the laryngeal lesion.
3. Local applications will not cure tuberculosis of the larynx. The cure comes through the patient's body fluids.
4. Tuberculosis of the larynx is not a separate disease, but a complication, and a rational treatment consists in the treatment of it as a part of a tuberculous process elsewhere, usually of the lungs.
5. Tuberculin and the other tubercle vaccines, intelligently administered, are of inestimable value in establishing immunity and bringing about a cure in tuberculous laryngitis.

63. **Aneurism of the Abdominal Aorta.**—Stratton concludes that the following points seem to be true in regard to direct, gradual, arterial closure in the treatment of aneurism of the abdominal aorta:

1. The sac can be filled with active or stratified coagula by that method.
2. The arterial tunics can safely endure the necessary manipulation and pressure.
3. Partial, rather than complete, arterial closure will ordinarily be the safest and most effective means.
4. The lumen of fully patulous arteries supplying the viscera and emanating from the sac, as well as the main blood current down the artery, can be maintained.
5. The general vitality of a proportion of patients afflicted with the disease is sufficient to endure the necessary operative interference.

Illinois Medical Journal, Springfield.

October.

71 Significance of Inflammation and Its Treatment. S. C. Stremmell, Macomb.
72 *Diagnosis in Spinal Cord Surgery. J. Grinker, Chicago.
73 *Fracture of the Base of the Skull, with Diastasis of Left Temporo-Parietal Articulation, Ending in Complete Recovery. G. De Tarnowsky, Chicago.
74 *Traumatism of the Brain. J. W. MacDonald, Aurora.
75 *Ophthalmia Neonatorum. W. O. Nance, Chicago.
76 *Hospital Construction. A. J. Ochsner, Chicago.
77 Perforation of Uterus During Curettage and Excision of Fifteen Feet and a Few Inches of Intestine, with Recovery. W. Park, Chicago.
78 *Ludwig's Angina: Report of Four Cases. G. N. Pratt, Chicago.
79 Commoner Inflammatory Diseases of the Eye and Their Diagnosis. T. A. Woodruff, Chicago.

72 and 75. Abstracted in The Journal, June 27, 1908, p. 2152.

73 and 74. Abstracted in The Journal, June 13, 1908, p. 2016.

76. An extensive article by this author on hospital construction appeared in The Journal, Sept. 21, 1907, p. 990.

78. **Ludwig's Angina.**—Pratt reports four cases in detail, in order to emphasize the lack of constitutional symptoms and the early and severe involvement of the air passages; the former appearing in no instance until after a longer time than usually suffices to end the disease one way or the other; in other words, the longer the disease lasts the more chronic its course, the greater probability of constitutional symptoms from a toxemia; but also the longer a patient lives the greater the chances of recovery. It seems but logical, therefore, to assert that death is due to respiratory involvement and that the part played by the infective agent from a constitutional standpoint is but secondary.

Alabama Medical Journal, Birmingham.

October.

80 *Some Causes and Evils of Mouth Breathing. W. G. Harrison, Birmingham.
81 Blood Pressure in Disease and Injuries of the Brain. W. H. Wilder, Birmingham.

82 Treatment of Gonorrhea in Women. A. G. Douglass, Birmingham
83 Personal Impressions of a Visitor to the International Congress on Tuberculosis C. B Jackson, Dora
84 Medical Treatment of Gallstones H. E Mitchell, Birmingham
85 *Diagnosis and Medical Treatment of Gastric Ulcer. J. E Dedman, Birmingham
86 Diagnosis, Prognosis and Treatment of Tuberculous Joints I J Sellars, Birmingham

80 and 85. Abstracted in THE JOURNAL, May 16, 1908, pp. 1634, 1635.

New Orleans Medical and Surgical Journal.

October

87 Intestinal Myiasis W D Deaderick, Marianna, Ark
88 *Moral Aspects of Race Suicide and Criminal Abortion Rev. A Biever, New Orleans
89 Medical Aspect of Criminal Abortion P. Michinard, New Orleans
90 Pediatrics in the Chicago Hospitals and Dispensaries L R. DeBuys, New Orleans
91 *The Female Bladder L Perrilliat, New Orleans.
92 *Shall the Average Country Practitioner Testify Before Our Juries as an Expert? H L Ballowe, Buras
93 Trachoma; Symptoms Cause and Differential Diagnosis R. W Salter, New Orleans
94 The Nasal Treatment of Spasmodic Asthma. G. King, New Orleans
95 Dionin in Diseases of the Eye E A. Robin, New Orleans

88. **Criminal Abortion.**—Rev. A. Biever explains and defends the position of the Catholic church, which prohibits the production of abortion under any circumstances whatever, even to save the life of the mother. In reply to the argument that, of two evils the lesser should be chosen, he replies that if the choice were between evils in the same order, then of course it would be lawful to choose the less But the choice is between a physical and a moral evil, and it is not right to do a moral wrong for the purpose of hindering a physical evil. While life may be taken in self-defense against an unjust aggressor, even in self defense it may not be taken against an innocent person, and this the fetus undoubtedly is. Further, he adds that if it is once granted that grave reasons may justify abortion, it will be found difficult to draw the line, and, he asks, Will the doctor who has destroyed fetal life on occasions when he deemed it legitimate practice, have the courage to resist on all other occasions?

91. **The Female Bladder.**—Perrilliat points out that if less attention has been paid by the gynecologist to the female bladder than has been paid by the genitourinary specialist to the male bladder, it is because the separation of the genital from the urinary tract in the female has made it less vulnerable and easier of recovery. On the other hand, its close anatomic relation with other organs and its peculiar relation with the pelvic floor, render it liable to injuries from parturition He describes the anatomy and its bearing on certain conditions of the bladder, and points out that the domestic habits of womankind are such as to encourage habitual over distension, and to predispose the organ to disease or derangement. The recumbent posture results in diminished pressure and is of great value in the treatment of diseases of the bladder. He points out the anatomic reasons for the importance of always emptying the bladder before making a manual exploration of the uterus or adnexa. In determining in a given case the association of pelvic disease with bladder irritability, the cystoscope is of inestimable value. Statistics show the association of the two conditions in nearly 70 per cent of the cases He insists on the importance of a vesical exploration in every case of a more than transient nature, and asserts that no harm can possibly follow the proper use of the cystoscope

92 **Country Practitioners as Medicolegal Experts.**—Ballowe asserts that the average country practitioner is not fit to pose as an expert when the life and liberty of an accused person is at stake Medical jurisprudence occupies but little attention in college teaching, and a graduate therefore is not fit to pose as an expert, unless by his own subsequent industry and experience he has acquired the requisite knowledge. This, save in a few individual instances, he rarely does, and Ballowe urges the country practitioner to accept no calls to give medical testimony unless he is thoroughly prepared to give it properly with the scant protection afforded by the court. It is a most pitiful sight to witness an incompetent or unprepared medical witness on the stand, being mercilessly flayed by a clever and skillful lawyer.

Archives of Pediatrics, New York.

October

96 *Epidemic Cerebrospinal Fever: Its Clinical and Pathologic Phases B F Royer, Philadelphia.
97 *Lumbar Puncture: Its Technic and the Value of Cytodiagnosis in Differentiating Tuberculous Meningitis from the Epidemic Variety E Burvill Holmes, Philadelphia
98 *An Analysis of Four Hundred Cases of Epidemic Meningitis Treated with Antimeningitis Serum S Flexner and J W. Jobling, New York
99 *Serum Treatment of Meningococcic Meningitis F S Churchill Chicago
100 *Serum Treatment of Epidemic Cerebrospinal Meningitis, Based on a Series of Forty Consecutive Cases C H Dunn, Boston
101 *Hydrocephalus of [illegible], with a Summary of Recent Cases of [illegible] by Antimeningococcus Serum J H Kr[illegible] Baltimore

96 **Epidemic Cerebrospinal Fever.**—This article is a descriptive account of the history, causation, pathology, histology, course and symptomatology, diagnosis, complications and treatment of this disease accompanied by a number of characteristic illustrations. Royer adds to his pessimistic view of the treatment a postscript in a much more hopeful tone based on the recent treatment of seventeen patients with Flexner's serum with only seven deaths.

97. **Lumbar Puncture.**—Burvill-Holmes describes the technic of the operation, contrasts the normal and pathologic spinal fluids, and discusses the value of cytodiagnosis in differentiating tuberculous meningitis from the epidemic variety. He believes that in cases of doubt, or when meningococcus on the one hand and the tubercle bacillus on the other can not be demonstrated, a cytologic estimation is of great advantage and should be made, particularly when we have at our command an operation so easy of performance and practically so free from danger, if the ordinary precautions are taken, as is lumbar puncture.

98. Abstracted in THE JOURNAL, July 4, 1908, p. 65.

99. **Meningococcic Meningitis.**—Churchill believes that with our present knowledge of Flexner's serum, it is our duty, given a case of meningitis, to do lumbar puncture, and if we obtain a cloudy fluid to inject the serum at once into the spinal canal, subsequent injections being determined by the results of the bacteriologic examination of the fluid. If this shows the presence of the meningococcus, the serum should be repeated every day for three or four days if necessary. If relapses occur, we should resort to the serum again.

100, 101 Abstracted in THE JOURNAL, July 4, 1908. pp. 65, 66.

Journal of the Indiana State Medical Association, Fort Wayne.

October

102 Surgical Treatment of Exophthalmic Goiter. J. V. Reed, Indianapolis
103 Diagnosis and Treatment of Sinus Thrombosis J. F Barnhill Indianapolis
104 Prevention of Venereal Diseases G Link, Indianapolis
105 Gonorrheal Ophthalmia W N Sharp, Indianapolis

American Journal of Surgery, New York.

October

106 Acute Perforating Gastric and Duodenal Ulcer E Eliot, Jr, New York
107 Management of Hernia J Wiener, New York
108 An Arrangement for Observing Operations A. M Lesser, New York
109 Three Interesting Cases of Sinusitis Associated with Serious Eye Complications A. Wiener, New York
110 Practical Points in Anesthesia F. E Neef, New York
111 Cholecystectomy W P Lang New Haven, Conn
112 An Easily Constructed Sling for the Application of the Plaster Jacket. S Epstein, New York.

Southern California Practitioner, Los Angeles.

October

113 The Medical Profession Rev J S Glass, Los Angeles
114 Inauguration of the 24th Annual Session of the College of Medicine of the University of Southern California G MacGowan, Los Angeles
115 The Old Time Doctor E B Ketcherside Yuma, Ariz
116 Case of Osteitis Deformans (Paget). H. Herbert, Los Angeles
117 Light P H Sunde, Los Angeles
118 Vital Statistics—Their Importance and the Means of Securing Them E S Godfrey, Bisbee, Ariz
119 Treatment of Gonorrhea in Females A J Downs, Los Angeles
120 Complications of Rubeola, Rubella and Scarlet Fever E Sweet, Los Angeles.

Journal of Advanced Therapeutics, Rahway, N. J.

October.

121 Advancement of the American Electro-Therapeutic Association. H. F. Pitcher, Haverhill, Mass.
122 Practical Experience with an Alternating Current Rectifier. F. Patterson, Sioux Falls, S. D.
123 Cancer and Its Treatment by Cataphoric Sterilization. G. B. Massey, Philadelphia.

Atlanta Journal-Record of Medicine.

October.

124 Quacks. M. A. Clark, Macon, Ga.
125 Exploratory Puncture of the Drum Membrane in Certain Diseases of the Middle Ear. D. Roy, Atlanta.
126 Treatment of the Morphin Habit in General Practice. G. H. Lehmann, Augusta, Ga.
127 Conservatism in Railway Surgery. W. P. Whittington, Asheville, N. C.
128 Empyema: Etiology, Symptoms, Treatment and When to Perform Thoracotomy. J. T. Burrus, High Point, N. C.
129 Report of a Case of Tropical Ulcer. W. E. Wilmerding, Atlanta.

Journal of the Oklahoma State Medical Association, Guthrie.

October.

130 Value of the X-Ray to the Surgeon, Its Use in Diagnosis and Treatment. E. S. Lain, Oklahoma City.
131 Necessity of the General Practitioner Knowing When an Operation Should Be Done, and of the Surgeon Being Conservative as to Operation. J. L. Shuler, Durant.
132 Preliminary Treatment, Care of the Wound, and After-Treatment of [illegible]uffman, Hobart, Okla.
133 Appendicitis, wit[illegible] of Its Varied Pathology and Treat[illegible]ka, Okla.

Detroit Medical Journal.

October.

134 Serum Diagnosis of Syphilis. H. R. Varney, Detroit.
135 Why Adenoids and Diseased Tonsils Should Be Removed. S. Conover, Flint, Mich.

St. Louis Medical Review.

October.

136 Diabetes Mellitus. T. N. Bogart, Excelsior Springs, Mo.
137 Infections of the Knee Joint and Treatment. W. C. G. Kirchner, St. Louis.
138 Malpractice, from the Doctor's Standpoint. J. Ashley, Bloomfield, Mo.
139 Heredity, Disease and Death. D. L. Field, Jeffersonville, Ind.

Cleveland Medical Journal.

October.

140 Mechanics of Lateral Curvature. H. O. Feiss, Cleveland.
141 Medical Progress in the Orient. I. Ludlow, Cleveland.
142 European Eye Clinics. L. Wolfenstein, Cleveland.

Journal of Cutaneous Diseases, New York.

October.

143 Lymphangioma Tuberosum Multiplex. M. L. Heidingsfeld, Cincinnati.
144 Osteoma Cutis. S. Taylor and R. W. Mackenna, Liverpool, Eng.
145 Treatment of Elephantiasis with the X-Rays. W. B. Adams, Beirut, Syria.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

October 24.

1 Heredity in Relation to Disease. J. A. Ormerod.
2 *The Limits of Knowledge. G. A. Gibson.
3 Sanitation in India. Sir J. P. Hewett.
4 Case in which Nine Confinements were Terminated Variously. A. H. N. Lewers.
5 *Points About Puncture of the Brain. H. Tillmanns.
6 Six Hundred and Seventy-Nine Operations Performed Under Spinal Anesthesia (Cocain or Stovain) by Tuffier's Method Dr. Sabadini, Algiers, Africa.

2. Published in the *Montreal Medical Journal*, Oct., 1908.

5. **Puncture of Brain.**—Tillmanns says that puncture of the brain is indicated as a diagnostic in all cases when the diagnosis is uncertain. When injury or disease of cranial cavity or brain is evident, trephining is required. Therapeutic puncture is practiced for hydrocephalus, dropsy of ventricles and for injections. Tetanus antitoxin cranial injection has been rightly abandoned for subcutaneous or intravenous injection or into the spinal cord or nerves. For instance, in wounds to the hand, where tetanus is expected, Tillmanns recommends immediate injection into the exposed brachial plexus endoneurally. He describes the technic of aseptic puncture of the brain. As to site, he recommends puncture from above, through the frontal bone about 2 cm. from the central line and 3 cm. from the precentral fissure. The hollow needle must be pushed downward and backward, striking the ventricle at a depth of 5 to 6 cm. A ring or shield fitted to drainage tube will avoid going deep enough to injure the opposite wall. Subcutaneous drainage is most advantageous. The ventricle may also be punctured from behind from the occipital lobe. The posterior cornu is met with at a depth of 3 cm. if cranium is opened 4 cm. over protuberantia externa and 3 cm. to side of central line of skull. Direction should be forward and slightly upward.

British Medical Journal, London.

October 24.

7 Examination and Certification of Mental Patients. J. Neil.
8 *Cats as Plague Preventers. A. Buchanan.
9 Implantation of the Ureters Into the Rectum for Extroversion of the Bladder in a Woman, by a Modified Peter's Operation. R. L. Knaggs.
10 *Brewis's Appliance for Use After Colotomy. J. Ingram.
11 Tropical Abscess of the Liver. S. R. H. Charles.
12 *Dysentery with Intestinal Amebas, but Without Hepatic Abscess. A. R. S. Anderson.
13 *Intestinal Amebiasis. C. M. Wenyon.
14 *Amebic Abscess of the Liver as an Easily Preventable Disease, and Postoperative Sepsis as an Important Lethal Factor. L. Rogers.
15 *Is Dysentery the Sole Cause of the Tropical Liver Abscess? K. C. Bose.
16 Treatment of Abscess of the Liver by Aspiration and Injection of Quinin. A. Hooton.
17 Dysenteric Amebas and Liver Abscess. E. Marchoux.
18 *Mycosis Fungoides. A. Garceau.
19 *Treatment of Lupus Vulgaris by Unmodified Sun Rays. J. G. Tomkinson.
20 *Treatment of Lupus Vulgaris. G. H. Lancashire.
21 Treatment of Hypertrichosis by the X-Rays. H. Noiré.
22 Bullous Eruptions in Children. J. L. Bunch.
23 Diseases of Domesticated Animals Communicable to Man. L. Roberts.
24 *Occupation Dermatitis. F. Gardiner.
25 Isolation of the Klebs-Loeffler Bacillus in Eczematous and Bullous Eruptions. A. Eddowes.
26 Experimental Urticaria. T. C. Gilchrist.
27 The Intracranial Complications of Ear Disease. C. A. Ballance.
28 Id. A. L. Whitehead.
29 Nature and Treatment of Atrophic Rhinitis. J. Adams.

8. **Cats as Plague Preventers.**—Buchanan follows up a previous article to insist on the importance of the cat as the best of all plague preventers.

10. **Appliance for Colotomy.**—Ingram describes an ingenious apparatus invented by one of his patients on whom colotomy had been preformed. It consists essentially of a metal box with a flange that can be attached to a body plate. At its dependent part it has a chute, at the end of which is fixed a rubber bag. The inventor is a busy traveling man and always carries two or three with him.

12. **Amebic Abscess of the Liver.**—Anderson recapitulates as follows the four principal reasons for the belief that there exists such a disease as amebic abscess of the liver:

1. Cases of dysentery characterized by the presence of amebas in the stools frequently develop liver abscess.
2. Patients with liver abscess admitted to charitable hospitals are frequently associated with dysentery with amebas in the stools.
3. Amebas are found in the interior of abscesses of the liver.
4. The experimental injection of *Entamœba hystolytica* into the bowels of cats and puppies has in some cases produced dysentery and liver abscess.

He discusses each of these in detail in relation to the statistics of 920 cases of dysentery at Port Blair, of which more than half the patients harbored amebas in their stools. Abscess occurred in less than 0.1 of all cases of dysentery, or 0.2 per cent. of dysentery with intestinal amebiasis, from which he infers that amebas in the intestines and stools, in Port Blair, neither foretold nor caused abscess of liver. The statistics also show that abscess of the liver occurs in less than 1 per cent. of cases of dysentery. That amebas are found in the interior of abscesses of the liver is undeniable, but is a very weak argument that they cause the disease. Experimental injection of amebas by mouth and rectum failed in Anderson's hands, to produce liver abscess. He concludes, therefore, that *Entamœba histolytica* in Port Blair and Eastern Bengal, at any rate, is not the important factor in the causation of abscess of the liver.

13. **Intestinal Amebiasis.**—Wenyon summarizes his article as follows: There is an ameba which is to be found in the human intestine, both in health and in disease, which reproduces asexually in the intestine and sexually in cysts, and which contains two, four or eight nuclei, according to the stage of development. These cysts escape to the exterior and

transmit the infection to other hosts. This ameba is not peculiar to man. In order to determine whether the ameba found in the tissues in dysentery and allied disorders is the same or a different species, it is necessary to study the developmental process; this has been done by Schaudinn, with the result that he describes two distinct species; but his results need confirmation.

14. **Prevention of Amebic Abscess of Liver.**—Further experience of ipecacuanha in the presuppurative stages of amebic hepatitis, confirms Rogers' contention that tropical liver abscess can thus be easily prevented. Four-fifths of amebic liver abscesses are free from bacteria and cocci when first opened, or postmortem if previously unopened. In cases of tropical liver abscess proving fatal after the open operation, infection with staphylococci is almost invariably found. The great majority of patients examined at the time of being dressed subsequently to the drainage show a similar infection, which it is almost impossible to prevent in damp hot climates. Postmortem evidence shows that, in half the number of patients, being 50 per cent. of the total operated on dying subsequently to the abscess being opened, conditions are found which almost preclude hope of recovery. In the remaining half, single, or practically single, medium-sized abscesses are found, which afford good hope of recovery under improved methods of treatment. By means of a flexible sheathed trocar, liver abscesses may be drained and repeatedly irrigated with quinin solution without the admission of air, with probably better results than the present Calcutta mortality of about 60 per cent. The ipecacuanha treatment should always be used after operation for liver abscess, to cure any latent amebic dysentery and to prevent further abscess formation.

15. **Tropical Liver Abscess.**—Bose says that ipecac in large doses in the presuppurative stage is sometimes followed by excellent results. He points to the effect of the use of cannabis indica in deteriorating the resisting power of the liver, and rendering it more susceptible to inflammation and suppuration.

18. **Mycosis Fungoides.**—Garceau is of the opinion that until we are more clearly informed of the nature of this disease the treatment should be tentative, and he is also firmly convinced that attention to the nervous system, to the general health and hygienic measures, is largely influential, as well as local treatment, in producing general benefit. Specific therapeutics depends on the discovery of a special organism.

19. **Solar Therapy of Lupus Vulgaris.**—Tomkinson, from the history of a patient treated by daily exposure to the sun's rays at Helouan, Egypt, recommends that where sun and other climatic conditions are favorable a trial be made of this method.

20. **Lupus Vulgaris.**—In regard to the local treatment of this disease, Lancashire believes that if a purely caustic treatment is decided on, the best drug at our disposal is pyrogallol. It must be pushed and a strong preparation used. He finds the 40 per cent. plaster superior to the 30 per cent., which he formerly used.

24. **Occupation Dermatitis.**—Gardiner makes the following deductions, based on 187 cases of occupation dermatitis at the Royal Infirmary, Edinburgh:

1. Most patients are attacked either a week or two after going to work for the first time or not until they have been employed a number of years.
2. Seborrhea and hyperidrosis, or precedent skin disease, increase the liability to attack.
3. Attacks are more frequent in hot weather, heat being a predisposing agent, even if nothing more.
4. The eruption is often made worse by the use of "patent" remedies.
5. Soaps are the actual provocatives in many cases, and in others aggravate an existing dermatitis.
6. The arms, hands and face are most frequently affected.
7. Some disturbance of the general health may determine the onset of the dermatitis or lead to its extension.

Clinical Journal, London.

October 21.

30 Technic of Cancer Operations, with Reference to Danger of Cancer Infection. C. Ryall.
31 Prolapse of the Uterus. T. G. Stevens.
32 Case of Femoral Aneurism Treated by Excision of the Sac. C. H. Fagge.

Medical Press and Circular, London.

October 21.

33 Diseases of the Stomach. W. Calwell.
34 Insanity, Wit and Humor. R. Jones.
35 Pathology and Treatment of Exophthalmic Goiter. A. G. Gullan.

British Journal of Children's Diseases, London.

September.

36 Acute Contagious Pemphigus Occurring in Febrile Diseases. C. Leiner.
37 Tuberculosis of the Brain, with Complete Paralysis of Both Third Nerves. R. B. Ness.
38 Educative Aspect of Games. A. H. Gerrard.
39 *Diagnosis of Urinary Tuberculosis in Children. C. A. Leedham-Green.
40 Three Cases of Congenital Heart Disease. G. Carpenter.

39. **Urinary Tuberculosis in Children.**—Leedham-Green says that instead of regarding it as a relatively rare disease, which, when present, is difficult to alleviate and hopelessly incurable, we now know that urinary tuberculosis is exceedingly common, and when recognized early and the primary focus removed is of distinctly good prognosis. Systematic examination of urine will reveal tubercle bacilli in many unsuspected cases. If in doubt, the opsonic index and the ocular and cutaneous reactions should be resorted to. He notes the weak points of these tests, and says that the only reaction giving a clue to location of infection is that of subcutaneous injection of old tuberculin. He insists on the importance of cystoscopy for estimating involvement of the bladder, and says that it may be practiced in the youngest girl and in boys over 8 years. Chromocystoscopy—the injection of carmine blue subcutaneously, and observing its excretion through the cystoscope—is a valuable adjunct. Where numerous tubercle bacilli and transitory hematuria exist without indication of site of trouble, a good substitute for exploratory nephrotomy is to expose the ureter subperitoneally by a small incision in the abdominal semilunar line, open it by a small longitudinal cut, insert a fine urethral catheter, and collect the urine separately. A fine stitch closes the opening in the ureter, which is dropped back to place and the wound is drained for a day or two.

Journal of Tropical Medicine and Hygiene.

October 1.

41 *Heart Lesions Among the Natives of Sierra Leone. H. E. Arbuckle.

41. **Heart Lesions.**—Arbuckle, as the result of an examination of apparently healthy natives of both sexes in Sierra Leone, finds that in a country where the cause we are accustomed to regard as by far the most potent, namely, acute rheumatism, is certainly not operative, heart disease is, nevertheless, very prevalent. The most obvious deduction is, that even in countries where acute rheumatism is of such prevalence as to overshadow in importance the other competent causes of cardiac lesions, these latter should never be forgotten or neglected by the practitioner, in respect of prophylaxis, diagnosis or prognosis.

Bulletin de l'Académie de Médecine, Paris.

October 13, LXXII, No. 32, pp. 201-232.

42 *Treatment of Certain Puerperal Infections with a Continuous Current of Oxygen. P. Reynier.

42. **Continuous Oxygen Douche in Puerperal Infection.**—Reynier reports in detail four cases of severe anaërobic puerperal infection in which marked improvement followed the use of a current of oxygen allowed to flow continuously into the uterus, through a recurrent catheter. The gas is admitted very slowly, avoiding all pressure, and the catheter is left permanently in the uterus, connected by a tube as needed with the oxygen tank. In the first case reported, the patient was much prostrated, six days after her confinement, the temperature being 40 C. (104 F.), and the lacerated perineum and cervix were covered with diphtheroid false membranes. The uterus was rinsed out with hydrogen dioxid morning and evening, followed by an iodized injection, and this by the continuous oxygen treatment. The temperature dropped to normal for part of the next day, and in five days the patient was well on the road to recovery. The results in the other cases were equally convincing. This oxygen treatment has been used in Thiriar's service at Brussels for some years, and he has reported good results from it, as mentioned in these columns, Sept. 29, 1906, page 1059.

Presse Médicale, Paris.

October 14, XVI, No. 83, pp. 657-664.

43 *Evolution and Treatment of Tuberculosis in Syphilitics. E. Sergent.

October 17, No. 84, pp. 665-672.

44 Rapid Radiography. P. Aubourg

October 21, No. 85, pp. 673-680.

45 *The Ethereal Sulphates in the Urine in Gastrointestinal Autointoxication. (Les sulfo-éthers urinaires.) R. Brunon and M. Guerbet

43. **Association of Tuberculosis with Syphilis.**—Sergent protests against the prevalent idea that this combination is exceptionally grave. On the contrary, specific treatment of the syphilis is liable to have a favorable influence on the tuberculous process. When a tuberculous individual contracts syphilis, the outlook is grave, but when a syphilitic develops tuberculosis, thorough mercurial treatment is liable to improve and even to cure the tuberculosis. Potassium iodid must be strictly avoided as it is liable to induce congestion and prove dangerous. The tuberculous and syphilitic processes may develop side by side without any reciprocal influence, and it is by no means exceptional to observe the tuberculous process assume an unusually mild fibrous form in these conditions. This is favored by treatment with lime, according to Ferrier, and general tonic measures. Sergent's research has shown that the lesions are never hybrid, but the syphilis may prepare the soil for tuberculous invasion.

45. **The Ethereal Sulphates in Gastrointestinal Autointoxication.**—Brunon and Guerbet, in previous articles, have called attention to the important information to be obtained from the study of the proportion between the ethereal sulphates and the total nitrogen in the urine. The details of fifteen cases are tabulated as observed during a long period. In every case as the signs of autointoxication diminished under dietetic measures, the quotient of the ethereal sulphates divided by the total nitrogen grew lower, and clinical improvement or complete cure followed—this train of events proceeding always in the same order. This quotient ranges between 1 and 1.4 per cent in normal conditions, but in autointoxication it increases to 3 and in extreme cases to 6 or 7 per cent. The proportion of the sulphates may decline, while the total nitrogen remains high.

Revue de Chirurgie, Paris.

October, XXVIII, No. 10, pp. 465-548

46 Amputation Above the Malleolus with Osteoplastic Operation on Calcaneum and Tibia. (Amputation sus-malléolaire. Procédé Guyon.) P. Duval

47 Affections of Bones and Joints Causing Hypertrophy, of Tuberculous Origin, in Man and in the Dog. (Ostéo-arthropathies hypertrophiantes d'origine tuberculeuse.) V. Ball and H. Alamartine

48 Rational Treatment of Congenital Luxation of the Hip Joint. What Attitude Is Best Adapted to Counteract Rotation? (Luxation congénitale de la hanche.) P. Le Damany

Semaine Médicale, Paris.

October 21, XXVIII, No. 43, pp. 505-516

49 *Paravertebral Triangle of Dulness. Grocco's Sign. (Du triangle de matité paravertébrale et son peu de valeur séméiologique chez l'adulte.) M. Roch and R. Dufour.

49. **Diagnostic Unreliability of Paravertebral Triangle of Dulness.**—Roch and Dufour express amazement that those who have written on the subject of Grocco's sign never seem to have examined for it in physiologic conditions. They state that it is an ordinary physiologic phenomenon with no diagnostic or differential value. The resonance along the spine is normally reduced because of the presence in this locality of the peculiarly thick dorsal muscles filling what they call the costovertebral groove. The soft parts are 1 cm. thick at the fifth dorsal vertebra; 2 cm. thick at the seventh; 3 cm. at the ninth and 3.5 cm. at the eleventh, measured just outside the spinous processes. An inch beyond they grow much thinner. This is the cause of the dulness observed, they say, and in pathologic conditions it is merely concealed by the pathologic condition on the diseased side, but its persistence on the sound side has no differential importance—it can be found just the same in the healthy. The above remarks apply exclusively to adults; the authors have not studied the sign on children.

Beiträge zur klinischen Chirurgie, Tubingen.

September, LIX, No. 3, pp. 475-811

50 *Simplified Operation for Umbilical Hernia. (Vereinfachtes Operationsverfahren des Nabelbruches.) A. Ebner

51 Total Luxation of Metatarsus in Lisfranc's Joint. (Dorso-laterale Luxation.) E. D. Schumacher

52 Incomplete Laceration Fracture of the Tubercle of the Tibia or Defective Growth? (Unvollständige Abrissfrakturen der Tuberositas tibiæ oder Wachstumsanomalien?) C. Schlatter

53 Displacement of Appendix Simulating Appendicitis. (Eine Lageveränderung des Wurmfortsatzes, welche Appendicitis vortäuschen kann.) P. Janssen

54 *Surgery of the Stomach. (Magenchirurgie.) R. Stumpf

55 Results of Treatment of Appendicitis at Munsterling, 1900-1907. E. Bar.

56 *Transplantation of Periosteum in Bony Ankyloses of Joint. (Weitere Untersuchungen und Erfahrungen über Periosttransplantation bei Behandlung knöcherner Gelenkankylosen.) E. M. Hofmann

57 *Clinical and Experimental Study of Hyperemic Treatment. (Beiträge zur Bier'schen Stauung.) E. v. Graff

50. **Operation for Umbilical Hernia.**—An illustrated description is given of Lexer's technic. After resection of the sac, a purse-string suture is taken through all the soft parts around, below the skin. The hernial opening is then sutured, after which the purse-string suture is drawn up and tied. The aponeuroses of the rectus muscles are then sutured above and below the purse-string suture, after which the skin is sutured. This technic excludes the possibility of infection, and reduces the liability to hemorrhage, owing to the minimal area of the wound, while the entire operation can be completed in a very few minutes—possibly under local anesthesia alone.

54. **Surgery of the Stomach.**—Janssen reviews the experiences with operations on the stomach at Witzel's clinic at Dusseldorf, 1903-1907: There were 49 cases of cancer, with operative treatment in 44, and 37 operative cases of non-malignant stomach affections. This material is analyzed in detail and the final outcome compared with the reports from other clinics. Loss of weight proved an important aid in the diagnosis of cancer in the dubious cases; if the weight continues to decline, exploratory laparotomy should be advised, even if the other symptoms are vague. Stumpf advises resection, as the results are better with this, even as a merely palliative operation, than from gastroenterostomy alone, and the mortality of 9.5 per cent. is so low that it should not turn the scale against it. Gastroenterostomy is liable to give good results with a slow-growing cancer, but with the rapidly growing neoplasms, gastroenterostomy or jejunostomy merely relieves the patient without lengthening life. Carcinomas which have caused symptoms for a considerable time before operation often give better permanent results than those which necessitate operation early. The latter generally belong to the extra malignant, rapidly growing cancers. In the cases of perforation of an ulcer in the stomach or duodenum, 50 per cent. of the patients operated on were cured. Excision of the ulcer in the simple cases, supplemented by gastroenterostomy, gave good permanent results, as also resection in the cases of non-malignant stenosis of the pylorus. Gastroenterostomy plus a plastic operation on the pylorus failed in 33 per cent. of the cases of benign stenosis of the pylorus.

56. **Transplantation of Periosteum in Treatment of Bony Ankylosis.**—Hofmann states that the functional results are still good in the case he reported in 1906, in which bony ankylosis of the elbow was cured by chiseling the joint to its original shape and then covering the cut surfaces with a flap of periosteum taken from the patient's own tibia. He has since undertaken experimental research to determine whether the implanted periosteum retains its specific properties and whether this does not contribute to the excellent outcome. He has also applied the same treatment in four additional cases of bony ankylosis, and this experience has demonstrated, he says, that the implanted periosteum serves to prevent further development of ankylosis and of osteophytes, the periosteum providing the natural barrier for bone growth, thus interposing the one effectual obstacle to formation of callus and the growing together of the bones. It also seems to promote the adaptation of the new joint surfaces to the functional demands—in short, the periosteum seems to be the main factor in the restoration of normal function in the joint. The best results were obtained in the cases with comparatively

little cicatricial change in the capsule and tissues around the joint. The anterior surface of the tibia seems to be the best location for taking the flap of periosteum, care being observed in cutting it to retain the osteoblast layer intact. The tibia does not suffer by its removal, and the flap never became necrotic in any of his tests or clinical experiences. In each case, the joint was immobilized in a cast for several weeks, after which active and passive exercises were begun, the patient being urged to use the arm naturally as much as possible, and thus gradually to ensure complete restoration of function.

57. **Experimental Hyperemic Treatment.**—Graff devotes nearly a hundred pages to description of extensive experimental research with constriction and suction hyperemia at Innsbruck. Among the other results reported are that a fatal dose of strychnin could be injected into the limb of the animal below the constricting band, without injury, and that absorption of diphtheria and tetanus toxin was much delayed, but the toxin finally proved fatal. The serum accumulating below the constricting band on a human limb does not seem to contain any bactericidal substances effectual against staphylococci and streptococci, but the serum from rabbits, under the same conditions, has a marked stimulating action on phagocytosis, reducing the number of germs to less than one-fourth per thousand. He thinks that this stimulation of phagocytosis is the secret of the benefit of hyperemic treatment.

Berliner klinische Wochenschrift.

October 12, XLV, No. 41, pp. 1833-1872.

58 Diffusely Disseminated Cutaneous Syphilids in Monkeys After Inoculation in the Testicles. (Hautsyphilide bei niederen Affen nach Impfung in den Hoden.) E. Hoffmann.
59 *Serotherapy of Chronic Nephritis. (Versuch die chronische Nierenentzündung serotherapeutisch zu beeinflüssen.) L. Casper and C. S. Engel.
60 *Pneumococcus in the Blood in Pulmonary Tuberculosis. (Der Pneumococcus Fraenkel im Blut bei Lungentuberkulose.) L. Panichi.
61 *Diabetic Lipoidemia. C. Frugoni and G. Marchetti.
62 Kurloff's Bodies in Mononuclears of Guinea-pig Blood and Their Protozoic Nature. (Kurloff'sche Körper in Mononuklearen des Meerschweinchenblutes.) V. Patella.
63 *Virus of "Three-day Fever." R. Doerr.
64 The Question of Specialists. (Zur Spezialistenfrage.) H. Kohn.
65 Tendon Transplantation. (Sehnentransplantation.) A. Hildebrandt.

October 19, No. 42, pp. 1873-1916.

66 Fatal Inflammation of the Lungs from Inhalation of Ammonia. (Tödliche Lungenentzündung durch eingeatmetes Ammoniakgas.) L. Lewin.
67 *Treatment of Scarlet Fever. (Einige Beobachtungen bei Scharlachepidemien.) Rubens.
68 Serum Reaction in Scarlet Fever. (Die Wassermannsche Reaktion bei Scharlach.) J. Zeissler.
69 Origin of Glaucoma. G. Levinsohn.
70 *Etiology and Treatment of Pernicious Anemia. K. Reicher. (Commenced in No. 41).

59. **Attempt to Influence Chronic Nephritis by Serotherapy.**—Casper and Engel describe in detail the treatment with serotherapy of eleven patients with chronic nephritis. The results proved that their technic is harmless, and that the general health of the patients showed marked improvement during the serum treatment, while the edema visibly subsided. In one case, the elimination of albumin and tube casts ceased entirely, while in others the amount only was reduced, and in a few no change was observed. They explain these variable results as due to the fact that the serotherapy is unable to restore to normal the already injured elements in the kidneys, but it keeps the functionally intact organs in good condition, and protects them against further ravages of the disease. The nephritis was in a pronounced form in all the patients thus treated. The curative serum was derived from a rabbit that was injected once or twice a week, for eight or ten times, with from 25 to 30 c.c. of serum obtained from 50 or 60 c.c. of the patient's own blood, set aside to clot. The serum was heated several times to 58 C. (136 F.) before being injected into the rabbit, and a separate rabbit was used for each patient. Blood was then drawn from the rabbit and the serum was mixed with 0.5 per cent. carbolic acid and injected into the patient in small amounts repeatedly. After the patient ceased to respond with a reaction to this rabbit serum, normal human or animal serum was used. Besides the specific antibodies generated in the rabbit in response to injection of the patient's own serum, the course of treatment is thus completed by supplying normal complement in serum from a healthy human or animal. The premises on which this method of treatment is based are described at length.

60. **Pneumococcus in Blood in Pulmonary Tuberculosis.**—Panichi reports that the pneumococcus was found circulating in the blood in four out of thirty tuberculous adults, without giving rise to any disturbances, apparently entirely latent. There was no history of pneumonia in any instance.

61. **Diabetic Lipoidemia.**—This communication from Grocco's clinic at Florence describes a case of diabetes in a boy of 13 whose blood contained excessive proportions of fat. The cerebrospinal fluid was opaque and milky and the blood also opaque and whitish, while the urine contained 35 gm. of fat in the twenty-four hours. The child succumbed in coma in the fifth month of the disease. The blood drawn during life contained in 100 gm. of ether extract, 94.170 parts total fat; 3.938 parts cholesterin, and 1,892 parts lecithin in 100,000 parts.

63. **Invisible Virus of "Three-Day Fever."**—Doerr is inclined to believe that the brief febrile affections known as dengue, summer fever, Shanghai fever, or by similar local terms, are in reality all of the same nature. In lower Austria such a sickness is prevalent during certain seasons. On account of the extreme collapse and depression it is popularly called "dog sickness," and is officially known as "endemic catarrh of the stomach." The syndrome is much like that of dengue. The government sent a commission in charge of Doerr to study the disease and means of prevention, and he has succeeded in tracing it to a virus which is transmitted by a gnat, the *Phlebotomus papatasii*, a small blood-sucking insect. The virus is in the patient's blood during the first day of fever but vanishes from the blood early. After the insect takes up the virus a week or so has to elapse before it can transmit the disease. Doerr infected a number of the gnats and by keeping them alive in large cages of fine organdy muslin, was able to infect three or four medical volunteers, even when the gnats were carried to Vienna from Herzegovina. He also infected four out of eight young soldiers who submitted to the test, the gnats being carried from the endemic spot to a region where the disease was never known to occur except as imported. Grassi published last year a work on these insects. The prevalence of the "three-day fever" corresponds with what is known of the localization and seasons of the phlebotomus.

67. **Scarlet Fever.**—Rubens has noticed that the severity of the sore throat, in every case of scarlet fever in his experience, invariably was proportional to the severity of the disease and the gravity of the prognosis, especially in regard to the complications. He has found that by keeping the process in the throat under control it is possible to attenuate the infection and ward off complications. Direct local applications with a brush are liable to be too superficial to do any good, or, if applied vigorously, may abrade the surface and open new portals for infection. Gargling is also too superficial in its effects, and it is difficult to get children to rinse out their mouths effectually with an antiseptic mouth wash. He has derived the greatest benefit from direct insufflation, through a straight tube, of a mixture of equal parts of sodium sozoiodolate and sulphur. It is necessary to repeat this insufflation every hour, day and night, to have it do any good, and he insists on this when he sees that the throat process is assuming a progressive character. He continues this local application until the ulcerations are circumscribed and the mucus production has ceased. As the throat process becomes attenuated under the influence of this local treatment, the general symptoms subside, and he has never had otitis develop or phlegmon in the maxillary glands under it. In a few instances otitis developed a week later, but this, he states, must have been from infection by way of the blood, and the otitis was always mild and rapidly subsided after paracentesis. The kidney complications must be warded off by strict dietetic measures, avoidance of all nitrogenous foods and alcohol, and reliance on milk as the main article of diet. During a very tempestuous onset of the infection, when there is danger of heart failure, he sometimes gives large doses of alcohol to tide the patient

past this crisis, but after this he forbids alcohol in any form. He keeps his patients in bed for four weeks. His careful examination of long series of scarlet fever patients has failed to reveal the diphtheria bacillus in the throat in any instance.

70. **Origin and Treatment of Pernicious Anemia.**—Reicher's communication issues from Kraus' medical clinic at Berlin, and describes a method of treating pernicious anemia based partly on the discovery of a hemolysin in the blood in this affection and partly on theoretical reasoning and laboratory experiments, as he describes in detail. His assumption is that the cholesterin in the body has the physiologic function of binding a complex hemolysin which is found in the blood normally. Lack of the cholesterin would naturally be followed by the accumulation of the hemolysin unrestrained, and this would be followed by hemolytic destruction of the blood, such as is observed in pernicious anemia. A 3 per cent. solution of cholesterin in olive oil (prepared with heat) neutralizes the hemolysin in the test tube and in experimental research, and it has given promising results in the clinic. He flavors it with a few drops of peppermint, and has the patients take about 100 gm. (a little over 3 fluidounces) every day. The mixture was taken readily by the patients, and the effect was very good in three of the four cases reported. The first patient was a woman of 40, and the stormy onset of the severe pernicious anemia was accompanied by dyspnea, ascites, pleural effusion and edema; reds, 750,000, and hemoglobin, 18 per cent. After the cholesterin had been taken for one week, the reds had increased to 1,750,000 and the hemoglobin to 30 per cent., and in the course of three more weeks to 50 per cent., while the other symptoms had disappeared, and the patient had increased in weight, although the spleen was still palpable. The cholesterin was kept up for seven and a half weeks, after which arsenic was given. The improvement lasted for some months, when the anemia syndrome recurred and proved fatal. In another case marked improvement was obtained, the reds increasing from 1,000,000 to 2,300.000, and the hemoglobin from 20 to 40 per cent.; in still another from 3.000,000 to the normal figure and the hemoglobin from 30 to 40 per cent. In the fourth case no benefit was apparent from the cholesterin, but a preparation of arsenic gave good results. He urges others to try this cholesterin oil in cases of pernicious anemia and possibly also of paroxysmal hemoglobinuria and eclampsia. In a certain proportion of such cases the cholesterin may respond to the causal indications, as the trouble may be the result of a lack of this substance in the organism and consequently loss of one of its most potent defensive factors. The literature on the subject is reviewed in detail, especially Kyes' research on the hemolytic prolecithid of cobra venom and the corresponding toxolecithid —both of which are bound by cholesterin, while animals can be rendered immune to the cobra lecithid by preliminary treatment with cholesterin.

Correspondenz-Blatt für schweizer Aerzte, Basle.

August 15, XXXVIII, No. 16, pp. 513-552.

71 *Bitemporal Hemianopsia After Subsidence of Epilepsy. A. Vogt.
72 Radium and Radioactivity. E. Sommer.

September 1, No. 17, pp. 553-584.

73 *Epidemic of Ringworm at St. Gallen. (Mikrosporie-Epidemie.) R. Zollikofer and O. Wenner.

September 15, No. 18, pp. 585-616.

74 *Occurrence and Treatment of Scarlatinal Otitis. (Scharlachotitis.) F. R. Nager.
75 The New Swiss Pharmacopeia and the Physician. A. Tschirch.

October 1, No. 19, pp. 617-648.

76 *Extraction of the Arms by Mueller's Technic. (Zur Armlösung nach A. Mueller.) R. v. Fellenberg.
77 *Endemic Typhoid from Bacilli Carrier. (Typhusendemie ausgegangen von einer vor 31 Jahren an Typhus abdom. erkrankten Bacillenträgerin.) E. Huggenberg.

October 15, No. 20, pp. 649-680.

78 *Laws Regulating Development of Secondary Affections with Apical Tuberculosis. (Das gesetzmässige Auftreten von Secundar-Erkrankungen bei Spitzentuberkulose.) Huguenin. Commenced in No. 18.
79 *The Viscosity of the Blood. (Viscosität des Blutes.) F. Blunschy.

71. **Bitemporal Hemianopsia Succeeding to Epilepsy.**—Vogt reports a case of typical bitemporal hemianopsia discovered after eight years of some impairment of vision. The patient was a woman of 48, who between her twenty-third and thirty-sixth year had suffered from severe epileptic seizures but had had none since then. The symptoms indicate the existence of a tumor compressing the center of the optic commissure, perhaps enlargement of the hypophysis or some other lesion in the vicinity of the sella turcica. This lesion was probably responsible for the epilepsy, as also for the vertigo and headache still observed at times.

73. **Epidemic of Ringworm and Its Control.**—When the epidemic of ringworm was discovered a central office was opened for free examination and treatment, and 243 suspicious cases were examined, with positive findings in 45. Before the intended Roentgen equipment for treatment was installed, it was found that the affection differed from the ordinary type; the scalp was inflamed, there were efflorescences on the skin in 32 of the 45 cases, and one-fifth of the patients were adults. The cases seemed to be grouped by houses rather than by contact in the school and the affection was distinguished further by its comparatively ready curability. These features differentiated the affection from ordinary ringworm, confirmed by the discovery of the *Microsporon lanosum.* This parasite infests the domestic animals as well as man, while the microsporon of ordinary ringworm is confined to man. It was found that cats were the sources of contagion in a number of instances. In one family the cat was first affected and was killed, then various members of the family became affected, and finally a recently imported cat contracted the affection from them. The public was warned of the danger of contagion from cats; no other domestic animals showed signs of any affection of the kind. The main point in treatment is the removal of the hair over the affected area, and this it was found could be accomplished by keeping the region constantly moist, the infected hairs readily dropping out under the effect of the maceration, while the sound hairs did not seem to be affected by it to any extent. The parts were shaved and then a mild antiseptic paste or salve applied or a moist dressing with a 5 per cent. soda solution, covered with oiled silk or rubber to keep in the moisture. A cure was obtained in three or four weeks in some cases, while others required as many months, the average being seventy days. The brothers and sisters of those affected were kept out of school for two weeks.

74. **Scarlatinal Otitis.**—Nager has studied the statistics in regard to scarlet fever in the Basle canton since 1876. The figures show that scarlet fever is of a less severe type of late years, the mortality having dropped from 13.6 per cent. in 1876 to 1.9 per cent., of 1.335 cases, 1900-1905. Examination of 750 patients in the scarlet fever isolation hospital showed otitis in 22.8 per cent., although the affection was latent in some. Otitis media was found in 6.5 per cent. of all the cases. Acute catarrhal inflammation of the ear without perforation, developing early in the disease, always subsided, leaving no traces. In 2 cases the scarlatinal otitis destroyed both the labyrinth and vestibular apparatus. Children with adenoid vegetations seem peculiarly predisposed to severe scarlatinal otitis, even when the vegetations have been removed. There seems to be some special favoring factor in the conditions that accompany adenoid vegetations, probably some constitutional anomaly. In one family six children presented the severe form of scarlatinal infection, and two succumbed. It is impossible to prevent the spread of the exanthem or enanthem, but it is important to keep the nose and throat clean and disinfected, for which adrenalin is useful, followed by spraying with a 0.5 per cent. solution of hydrogen dioxid or a boric-acid solution, concluding with an oil spray. These measures repeated several times a day will keep the passages open and prevent stagnation of secretions.

76. **Extraction of the Arms According to Mueller's Technic.**—The principle of this technic for management of breech presentation is that by drawing one shoulder down lower than the other and working it through the pelvis the arm follows of itself. Instead of drawing the child vertically downward, as with the Deventer technic, when the shoulders are reached, the trunk of the child is drawn to one side which releases one

shoulder, which then appears at the vulva. Drawing the child by the feet in the opposite direction then releases the other shoulder, and the shoulders are thus delivered as with a vertex presentation. The aftercoming arms reduce the diameter between the tips of the shoulders and facilitate the maneuver better than when the arms are crossed on the chest. In extremely difficult labor with contracted pelvis, Mueller advises exerting forcible traction downward and then to one side, even if the child's clavicle snaps. This brings the shoulder past the brim and the clavicle may prove elastic enough to yield. There has been considerable discussion of late in regard to this Mueller technic, but Fellenberg's experience in two difficult cases was so favorable that he commends it in high terms.

77. **Typhoid Endemic from Bacilli Carrier.**—Huggenberg states that thirteen cases of typhoid occurred in a single family at different intervals in the course of thirty-one years, none with any apparent connection with typhoid epidemic or sporadic in the neighborhood, and notwithstanding the most scrupulous measures for disinfection and cleanliness and changes of residence of the family. Recent examinations have disclosed, however, that the mother, the first member of the family to have typhoid, thirty-one years before, still eliminates considerable numbers of typhoid bacilli in the stools, although apparently in perfect health. She was advised to disinfect her stools and urine for twenty-four hours before turning them into the drain, and to soak her bed and body linen also in a disinfectant solution before sending it to the laundry. She was also advised to keep away from the kitchen as much as possible, and to wash her hands frequently with a disinfectant solution.

78. **Laws Regulating Development of Secondary Affections with Apical Tuberculosis.**—Huguenin discusses the participation of the nerves, muscles, etc., in the cough and in aspiration of substances from diseased parts of the lung, showing how the development of secondary affections proceeds according to certain physical laws.

79. **Viscosity of the Blood.**—Blunschy has made a comparative study of the conditions in regard to the viscosity of the blood in 72 healthy and 52 sick persons under various conditions. Muscular exertion reduces the viscosity when severe and long continued, but increases it when mild and comparatively brief, even when there is much perspiration in both conditions. On the other hand, even very slight exertion in persons with cardiovascular or respiratory affections increases the viscosity. He ascribes the variations to the different proportions of carbon dioxid in the blood, and states that determination of the viscosity will thus reveal insufficiency in the circulation and respiratory ventilation of the blood. Caffein had a marked influence in rendering the blood more viscous, while camphor had the opposite effect. This opposite behavior of these drugs might profitably be borne in mind in prescribing them. In health the viscosity and hemoglobin percentage run parallel, but striking divergences are observed in various diseases.

Deutsche medizinische Wochenschrift, Berlin.

October 15, XXXIV, No. 42, pp. 1793-1832.

80 *Treatment of Pelvic Abscess. (Behandlung der Beckeneiterungen.) H. Tillmanns.
81 *Symptomatology of Tumor in the Cerebellum and Cerebellopontine Angle. (Symptomatologie der Tumoren des Kleinhirns und des Kleinhirnbruckenwinkels.) Gierlich.
82 Congenital Familial Dermatogenic Contracture of the Finger Joints. Henneberg.
83 *Treatment of Carbuncle. M. Grasmann.
84 Treatment of Eczema in Infants by Restriction of Salt. (Behandlung des Säuglingsekzems nach Finkelstein.) O. Mendelsson.

80. **Treatment of Pus Collections in the Pelvis.**—Tillmanns reviews the indications in the different forms of abscesses in the pelvis in men and in women, giving a number of minor points useful to bear in mind as to the best means of access, etc. In conclusion, he warns against any attempt at conservative treatment of tuberculous processes in the pelvic bones as not only absolutely ineffectual, but liable to aggravate the process. He adds further that operations on the soft parts are much less serious than when combined with resection of bone and he has consequently abandoned osteoplastic resections, even the temporary.

81. **Symptoms of Cerebellar Tumors.**—In the first of the two cases described, Gierlich found a sarcoma in the vermiform process of the cerebellum in a boy of 7. The symptoms had been distinguished by the high degree of cerebellar ataxia and intention tremor, especially the locomotor ataxia in the right arm and leg. While contemplating radical removal the patient died suddenly forty-eight hours after the exploratory operation, succumbing apparently to the effects of pressure on the centers in the medulla oblongata. The second patient was a woman of 28 with symptoms of a tumor in the cerebellopontine angle. As the symptoms were early accompanied with atrophy of the optic nerve and loss of the sense of smell, a second tumor in the anterior fossa was assumed, and no operation was attempted. Autopsy revealed, however, merely a single neurofibroma in the pontine angle originating in the glossopharyngeal nerve with much hydrocephalus. The latter was evidently responsible for the atrophy of the optic nerve. The circumstances indicated that the tumor might have been successfully enucleated.

83. **Treatment of Carbuncle.**—Grasmann makes a crucial incision and turns back the four flaps, cutting into sound tissue. The flaps are packed underneath with gauze dipped in a hot solution of boric and salicylic acid. This hot solution seems to be remarkably effectual in preventing hemorrhage and in promoting the expulsion of the necrotic tissue. The surrounding sound skin is protected with a salve against burning from the hot solution. A large moist dressing is applied, and the application is repeated in twenty-four hours, or, if the fever has subsided, not until the second day. He has never had occasion to make further incisions or to ligate any of the vessels.

Fortschritte der Medizin, Leipsic.

September 30, XXVI, No. 27, pp. 849-880.

85 *Instantaneous Roentgen Photography. (Momentröntgenographie) F. M. Groedel.

85. **Instantaneous Roentgen Photography.**—Groedel expatiates on the value of the improved technic which allows instantaneous *x*-ray pictures to be taken from a distance of over six feet. The proportions are preserved as in orthodiagraphic skiagrams, only the parallel rays being utilized.

Medizinische Klinik, Berlin.

October 11, IV, No. 41, pp. 1559-1594.

86 Treatment of Third Stage of Labor. (Behandlung der Nach- [illegible] nm.
87 [illegible] (Meningitis basilaris occlusiva.)
88 Aneurisms of Descending Aorta. (Aneurysmata des absteigenden Teiles des Arcus aortæ.) N. Voorhoeve.
89 *Symposium on Pernicious Anemia. (Umfrage über die Diagnose, Aetiologie und Therapie der perniziösen Anämie.)
90 Pregnancy Complicated with Uterine Cancer. (Schwangerschaft kompliziert mit Uteruskarzinom.) H. Hoffstetter.
91 Treatment of Epilepsy with Borax. H. P. T. Oerum.
92 *Modern Treatment of Glaucoma. W. Feilchenfeld.
93 Technic of Intraspinal Administration of Antimeningococcus Serum. (Technik der intralumbalen Anwendung des Meningokokkenheilserums (Kolle-Wassermann.) E. Levy.
94 *Advantages of General Anesthesia with Part of Circulation Cut Off; Autotransfusion. (Welche Vorzüge hat die Narkose bei verkleinertem Kreislaufe, und wie wirkt die von Klapp proponierte Autotransfusion?) H. Ziegner.
95 Bicentennial of Albrecht von Haller. P. Richter.

87. **Posterior Basic Meningitis with Occlusion.**—Wimmer reports with autopsy findings a typical case of circumscribed non-specific posterior basic meningitis. In about 90 per cent. of the cases on record the disease occurred before the age of 3. The children were previously healthy except that in some cases there was preceding catarrh of the upper air passages or a prodromal otorrhea. About 16 per cent. of the cases on record terminated in recovery. Increasing somnolency and emaciation are unfavorable signs.

89. **Pernicious Anemia.**—The editors invited a number of clinicians to express their opinions in regard to the etiology and treatment of pernicious anemia. Among the replies received, His stated that more than half of all the cases resisted treatment. Eichhorst has frequently obtained good results from administration of arsenic kept up for many weeks, as also Naegeli. None had witnessed any benefit from a mountain climate, and none had any theory in regard

may do so, if they wish, and the advantages are explained to them. The change from the bed to the chair at the bedside for twenty minutes is insisted on with greater emphasis for very anemic and corpulent women, as the danger of thrombosis is greater in these conditions. The woman is helped out of bed very carefully, supported on both sides. The second time she is allowed to sit up for an hour or two, morning and afternoon. The general condition rapidly improves, catheterization of the bladder is not needed, and there are none of the pains in the back frequently complained of when the patient lies long in bed. He urges all who try this method to let him know their experiences, keeping the gynecologic and the obstetric cases separate, as he is collecting material for a comprehensive monograph on the subject for next year. Large numbers are not so important for his purpose as every single case in which untoward effects from the early getting up became evident. It has been his experience that working women are less subject to thrombosis than others, and he asks for the experience of others in this line. He also hopes that physicians who have not encountered cases of thrombosis will tell him to what they attribute this exemption from mishaps. In Holland, for instance, thrombosis is very rare.

125. **Tents are Superfluous.**—Herff states that he has not had occasion to use tents more than once in the course of the last seven years, although he has had to dilate the uterus in 800 cases, mostly for curetting. In a few cases he used gauze, but in all the others he preferred instrumental dilatation, and has never had a mishap, although the dilatation is done by some student, as a rule, under his supervision. He teaches that tents are unnecessary, except possibly with a hydatidiform mole.

Ugeskrift for Læger, Copenhagen.

August 27, LXX, No. 35, pp. 997-1020.

127 *Dietetic and Medicinal Treatment of Gastric Ulcer. (Mavesaarets Behandling.) A. Borgbjærg. Commenced in No. 34.

September 3, No. 36, pp. 1021-1046.

128 **Ultimate Outcome of Cases of Tuberculosis* with and without Tubercle Bacilli in the Sputum. (Nogle Forhold verdrørende Tilfælde af Lungetuberkulose med og uden Tbaciller i Opspyttet.) T. Petersen.

127. **Treatment of Gastric Ulcer.**—Borgbjærg reviews the literature on the dietetic and medicinal treatment of gastric ulcer in the last few years, and relates his own experience. He agrees with Lenhartz and Thesen that the stomach mucosa is not sensitive, and that consequently the pains experienced are the result of the spread of the inflammation into the lymphatics or of traction on the parietal peritoneum from the contractions of the stomach. In treating an ulcer, therefore, it is important to avoid all articles of diet liable to promote peristalsis. For this reason also the food should be given in very small quantities; if there is much thirst water can be supplied by the rectum. Thesen allows nothing but lukewarm milk at first, a tablespoonful at a time, to a total of 250 c.c. (8 ounces) during the day, increasing an ounce each day during the first week; with one raw egg the second day, two the third, three the fourth, and so on, with nothing but the milk and raw eggs until the seventh day. At the same time he gives 10 gm. (150 grains) bismuth daily, believing that it diffuses into the lymphatics and arrests the lymphangitis. His experiences with thirty-five patients thus treated during the last two years have been favorable. Benefit is also liable to be obtained from olive oil, and Borgbjærg has had some striking results in this line, especially when bismuth is given with it, using a 7 to 10 per cent. suspension. In one of his cases hematemesis was the first symptom, followed by sudden pain in the stomach region, hypersecretion and morning retention. During the following six months the man lost constantly in weight, with no improvement under dieting and a course of Carlsbad water. He took 100 gm. (3 ounces) olive oil every morning, and the pains promptly subsided, while he gained nearly 25 pounds in weight and the suspicion of cancer was dispelled. The combination of olive oil and bismuth generally proves more effectual than either alone.

128. **Ultimate Outcome of Cases of Tuberculosis with or Without Tubercle Bacilli in the Sputum.**—Petersen tabulates the cases of pulmonary tuberculosis treated in three northern sanatoria and by Turban at Davos, with respect to the positive findings in the sputum just before and at the close of the sanatorium treatment. Examination from four to six years later shows that only 27.3 per cent. of those with bacilli in the sputum at that time have regained full earning capacity and only 9.7 per cent. are partially restored to work, while 55.5 per cent. have died in the interim. Those without bacilli show 73.4 per cent. with complete and 16 per cent. with partial restoration of their earning capacity, while only 4.7 per cent. have died. These figures include 2,623 patients with positive and 1,064 with negative findings in the sputum.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

DISEASES AND SURGERY OF THE GENITOURINARY SYSTEM. By Francis S. Watson, M.D., Lecturer on Genitourinary Surgery, Harvard Medical School. Assisted by John H. Cunningham, Jr., M.D., Visiting Surgeon to the Long Island Hospital, Boston. Vol. I, The External Genitals, The Prostate and Bladder. Vol. II, The Kidneys and Ureters. Cloth. Pp. 1101, with illustrations. Price, $12.00 per set. Philadelphia: Lea & Febiger, 1908.

ATLAS CLINICAL SURGERY, with Special Reference to Diagnosis and Treatment. By Dr. Ph. Bockenheimer, Professor of Surgery in the University of Berlin. English Adaptation by C. F. Marshall, M.D., F.R.C.S., Late Assistant Surgeon to the Hospital for Diseases of the Skin, London. Three Volumes. Flexible Leather, with illustrations. Price, $24.00 per set. New York: Rebman Co.

DIE LEHRE VON DER KONGENITALEN TUBERKULOSE mit besonderer Berücksichtigung der Placentartuberkulose. Von Anton Sitzenfrey, I. Assistenten der Universitätsfrauenklinik und Privatdozenten für Geburtshilfe und Gynäkologie an der Universität in Giessen. Paper. Pp. 156, with illustrations. Price, $1.40. Berlin: Verlag von S. Karger, 1909.

TUBERCULOSIS IN MASSACHUSETTS. Prepared by the Massachusetts State Committee for the International Congress on Tuberculosis, held at Washington, D. C., September, 1908. Edited by Edwin A. Locke, A.M., M.D. Cloth. Pp. 223, with illustrations. Boston: Wright & Potter Co., 1908.

SYPHILIS UND NERVENSYSTEM. NEUNZEHN VORLESUNGEN FUR PRAKTISCHE AERZTE, NEUROLOGEN [illegible] Nonne, Oberarzt am allgemeinen [illegible] Second Edition. Paper. Pp. 699, [illegible] Berlin: Verlag von S. Karger, 1909.

DIE KOMPLIKATIONEN DER [illegible] Von P. H. Gerber, a.o. Professor un[illegible] versitäts-Poliklinik fur Hals- und Nas[illegible] r. Paper. Pp. 457, with illustrations. Price, $3.60. Berlin: Verlag von S. Karger, 1909.

APPLIED SURGICAL ANATOMY. By George Woolsey, A.B., M.D., Professor of Anatomy and Clinical Surgery in Cornell University Medical College. Second Edition. Cloth. Pp. 601, with illustrations. Price, $4.50. Philadelphia: Lea & Febiger, 1908.

LECTURES ON PRINCIPLES OF SURGERY. By Stuart McGuire, M.D., Professor of Principles of Surgery and Clinical Surgery University College of Medicine, Richmond, Va. Cloth. Pp. 480. Price, $4.00. Baltimore: Southern Medical Publishing Co., 1908.

FORTIETH ANNUAL REPORT OF THE SECRETARY OF STATE ON THE REGISTRATION OF BIRTHS AND DEATHS, MARRIAGES AND DIVORCES in Michigan, for the Year 1906. Cloth. Pp. 180. Lansing: Wynkoop Hallenbeck Crawford Co., 1908.

ANATOMIE UND MECHANISMUS DER SKOLIOSE. Von Carl Nicoladoni, Professor der Chirurgie an der Universität Graz, K. K. Hofrat. Cloth. Pp. 58, with illustrations. Price, $2.25. Wien: Urban & Schwarzenberg, 1909.

DIE PLACENTA MARGINATA und ihre Entstehung. Von P. Sfameni, Professor und Direktor der Universitäts-Frauenklinik in Perugia. Paper. Pp. 70. Price, $0.60. Berlin: Verlag Von S. Karger, 1908.

TWENTIETH BIENNIAL REPORT OF THE STATE BOARD OF HEALTH OF CALIFORNIA For the Years 1906 to 1908. Paper. Pp. 227. Sacramento: W. W. Shannon, Superintendent State Printing, 1908.

SYPHILIS OSSEUSE (SYPHILIS ACQUISE). Par Louis Spillmann, Professeur agrégé à la Faculté de médecine de Nancy. Paper. Pp. 134, with illustrations. Price, $0.85. Paris: G. Steinheil, 1909.

THE PHYSICIAN'S VISITING LIST FOR 1909, with special memoranda. Pocket size. Flexible leather, with pocket and flap. Pp. 114. Price, $1.00. Philadelphia: P. Blakiston's Son & Co.

THIRTY-FIFTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF MICHIGAN FOR THE YEAR 1907. Cloth. Pp. 188. Lansing: Wynkoop, Hallenbeck, Crawford Co., 1908.

CATALOG OF OFFICERS AND FELLOWS OF THE MASSACHUSETTS MEDICAL SOCIETY. Jan. 1, 1908. Paper. Pp. 169. Boston: Published by the Society. 1908.

UEBER APPENDICITIS WAEHREND SCHWANGERSCHAFT UND GEBURT. Von Gerhard Renvall. Paper. Pp. 117. Price, $1.00. Berlin: Verlag von S. Karger.

BUDDHISM AND IMMORTALITY. By William Sturgis Bigelow. Cloth. Pp. 75. Price, $0.75. New York: Houghton Mifflin Co., 1908.

IMPROVEMENT AND DETERIORATION. By J. T. Searcy, M.D., L.L.D., Tuscaloosa, Ala. Paper. Pp. 23. Hospital Print.

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Address

THE NATURE AND CAUSES OF ECZEMA.

CHAIRMAN'S ADDRESS BEFORE THE SECTION ON CUTANEOUS MEDICINE AND SURGERY OF THE AMERICAN MEDICAL ASSOCIATION, CHICAGO, JUNE 2-5, 1908.

M. B. HARTZELL, M.D.
PHILADELPHIA.

Although eczema is of perennial interest to the dermatologist, it is not without some misgiving that I bring so trite and hackneyed a subject before this Section, and more especially since I have nothing novel to present. But there are so many and such great gaps in our knowledge of the essential nature and real causes of this many-sided affection that individual views, especially when based on experience, must always have more or less interest for those who are in daily contact with the many problems presented by this the most frequent of skin affections. As a measure of how much (or how little) we have learned in a century concerning the causes of eczema, it will be interesting to review briefly the various opinions which have been put forward by those who, with patient, earnest toil, laid deep and strong the foundations on which has been erected the splendid structure of modern dermatology, comparing them with those of the present day.

HISTORICAL CONSIDERATIONS.

Thomas Bateman in "A Practical Synopsis of Cutaneous Diseases," published in 1815, defines eczema as "a noncontagious eruption, generally the effect of irritation whether internally or externally applied, occasionally produced by a great variety of irritants in persons whose skin is constitutionally very irritable." Rayer, writing a few years later, described eczema as a noncontagious inflammation of the skin, and further stated that "our inability in a multitude of cases to discover any evident or even probable cause leads us forcibly to conclude that eczema is most generally evolved and kept up by hidden alterations of the fluids and solids"; but he made no attempt to define what these alterations were.

Devergie began the consideration of the causes of eczema by saying that "If one can not inherit an eczematous affection one may at least inherit the organization which favors its development," and he continued: "But eczema can spring from a host of different causes and it must be said that it is one of the maladies for which the predisposing cause, that which keeps *up and perpetuates* the cutaneous affection is most frequently unknown; . . . the determining causes are often readily found, but the *predisposing* causes are *determined* with difficulty. Not in ten cases in one hundred will the real cause of the affection be found sufficiently clearly indicated so that one may direct treatment against it."

If now we turn for a moment from the French school and return to England we find Erasmus Wilson, who so long deservedly occupied a commanding position in the field of dermatology, declaring: "The essential cause of eczema is debility, debility of constitution or general debility, and debility of tissue or local debility," the former presenting three forms, namely, assimilative, nutritive and nervous debility. He believed general debility by far the most frequent cause of this disease (278 out of 300 cases).

THE CONTRIBUTIONS OF HEBRA.

Among all those who have contributed to the building up of modern dermatology Ferdinand Hebra occupies easily the first place. Refusing to be bound by tradition and authority, with true scientific spirit always subordinating mere theory to observed facts, he greatly simplified the entire subject of eczema, doing away with the cumbersome and complicated classification of his predecessors, demonstrating "that certain affections of the skin hitherto described under different names must be regarded as only parts of one and the same disease, namely, eczema."

His conception, too, of the nature of this disease differed decidedly from those who had previously written about it. He regarded it as an inflammation of the skin which differed in no respect in essential features from inflammations of the same tissue arising from contact with irritants. For him the inflammation following the application of croton oil was just as much eczema as that which arose from some unknown or hypothetical cause. Heredity, which Hardy regarded as among the first of all the predisposing causes, in Hebra's opinion played no part in the production of eczema.

He considered faulty innervation as the most important element in its production. Under his teaching local treatment assumed a place of importance which it had never held before, and a large number of the nauseous decoctions of more than doubtful usefulness which had been prescribed from time immemorial for the expulsion of some theoretic *materies morbi*, "some peccant matter in the blood," were cast into the limbo of forgetfulness. Not that he denied the utility of internal treatment, but he clearly showed that in many instances local treatment was quite capable of bringing about a recovery to which internal remedies contributed nothing.

MORE RECENT STUDIES.

Let us now consider for a moment some of the views to be found in the most recent treatises. Crocker, while excluding from the category of eczema all inflammations of the skin due to strong irritants which act alike on the skins of all individuals, yet includes certain forms of dermatitis produced by substances which are irritants only to certain individuals. He regards an exhausted nervous system as one of the most common factors in the production of eczema, but "foremost among all internal disorders" he places derangement of the alimentary canal. Concerning the parasitic nature of eczema, which has recently come to occupy a prominent place, his views are as follows: "While a limited number of cases of local dermatitis indistinguishable from eczema are parasitic, in most the dermatitis, however caused, only opens the door to parasites whose presence keeps up the local irritation."

In 1890 Unna put forward the theory that eczema should be ranked among the parasitic diseases, the active etiologic agent being a micro-organism which he named the *morococcus*, and still more recently he has reiterated his belief that the clinical phenomena of eczema may be best explained and understood if we accept its purely external parasitic origin. This theory has been by no means generally accepted in its entirety, although a fair number of authors have accepted it in modified form. Le Redde and Hallopeau likewise regard it as a parasitic malady occurring in subjects especially predisposed.

Stelwagon assigns chief importance among constitutional causes to gout, rheumatism and "digestive debility." In speaking of external causes he remarks very suggestively: "There are cases of eczema which are persistent owing to the fact that the external exciting cause remains unknown or unsuspected."

Hyde and Montgomery find that "eczematous affections may occur in individuals who are in every respect superb examples of good health, and are associated with every variety of systemic disease whose effect on the cutaneous malady is quite unknown"; they, too, find that eczema is associated most frequently "with defects in digestion, assimilation and excretion."

These brief abstracts from standard French, German and American treatises on diseases of the skin may be taken as representing the prevailing views concerning the nature of eczema and its chief causes, local and general.

OPINIONS AS TO ETIOLOGY.

There is a pretty general agreement among authors that eczema may arise from purely local causes, but there is considerable difference of opinion as to whether all of these local inflammations should properly be included in the category of eczema. I believe, however, that the dermatitis which arises from repeated or long-continued contact of the skin with some irritant substance is just as much eczema as the local inflammations which arise from unknown causes. For example, the entire group of so-called trade eczemas, such as occur so frequently on the hands and forearms of those who work in dye stuffs and other irritant chemicals, and which often persist for an indefinite period, even after the patient is no longer exposed to the original cause, are surely eczema in every sense of the term. They are no less eczema because they arise from well-known causes.

Much stress has been laid by authors, almost without exception, on a special predisposition as a necessary prerequisite for the production of eczema by local irritants, but in what this predisposition consists, if it exists, we are entirely ignorant. It seems to me that eczema may occur in any individual if the local irritation is prolonged or sufficiently often repeated. Indeed, we have abundant evidence of this in many cases of the trade eczemas already alluded to in which the inflammation of the skin appears only after a shorter or longer period of immunity.

I recall the case of a distinguished teacher in one of our medical schools who, after having employed solutions of formaldehyd for several years for the preservation of his anatomic specimens without the slightest deleterious effect, began to suffer from a patchy vesicular eruption on the hands, presenting all the clinical features of eczema. His general health, which was always excellent, had undergone no perceptible alteration in the meantime. The skin having once become inflamed recurrences take place with ever increasing facility. In the case just quoted the patient had exposed his hands to the action of solutions of formaldehyd for two or more years without exciting inflammation, but when once a dermatitis had occurred the sensitiveness of his skin was so greatly increased that merely entering a room where a small quantity of formaldehyd vapor was present was sufficient to bring on a sharp attack of eczema. McCall Anderson has aptly remarked that the skin, like other portions of the economy, contracts bad habits, and having once contracted them often gives them up with great reluctance. As a matter of course the period of immunity varies greatly with the individual, one contracting an eczema very speedily, another only after repeated or prolonged exposures.

UNSUSPECTED CAUSES.

In many cases of local eczema, in which, owing to limitation of the eruption to exposed parts, or for other more or less obvious reasons, we are convinced of its external origin, it is frequently a matter of the utmost difficulty to detect the exciting cause owing to its often unsuspected nature. I have within the past two or three years seen two cases of eczema, both in women, situated on the sides of the face and neck, in which the eruption had been present for two or three winters, beginning with the appearance of cold weather and disappearing in the spring. In both cases there was nothing in the appearance of the disease to suggest that the inflammation was anything else than an erythemato-vesicular eczema of the ordinary type. There were patches of small vesicles seated on an erythematous base which were followed by oozing and crusting and accompanied by itching and burning. After observing the cases for some time it was discovered that the disease had in each instance appeared after the wearing of a new fur boa; with the abandonment of this particular piece of fur the disease disappeared permanently under simple local treatment. Cases like this are by no means the exception, indeed they are so common as to be within the experience of every one, and I am quite convinced that we should do well not to accept an internal cause for cases of localized eczema until we are able to absolutely exclude external causes.

While I am far from prepared to accept the theory of the parasitic origin of eczema, I am yet quite willing to accord to micro-organisms an important rôle in this disease. I think there can be no doubt that in many instances an acute dermatitis arising from some simple inflammation of the skin is transformed into a chronic eczema by secondary infection by some one of the many varieties of the micro-organisms which flourish so abundantly on the skin. Strong presumptive evidence in support of such a view is afforded by the fact that such local remedies as tar, ammoniated mercury, resorcin and other substances possessing more or less active parasiticide properties often are of great service in local eczemas.

INTERNAL CAUSES OF ECZEMA.

When we turn from the external causes of eczema to a consideration of its internal causes we immediately leave the well-beaten road of ascertained fact to enter a wilderness of speculation and hypothesis. It is not my purpose to enter into a detailed consideration of the internal causation of eczema, but it may not be without interest to examine briefly a few of the most generally accepted internal causes, belief in which seems frequently to have no better foundation than the shifting sands of theory, which in turn is based too often on insufficient or faulty observation. Among these, especially in infantile eczema, so-called dyspepsia, and digestive troubles of various kinds occupy the first place; but I think it may well be doubted whether these deserve this evil preëminence.

A half century ago Devergie observed that many patients with eczema were examples of perfect general health, and that frequently, if they had suffered previously from indigestion, they were free from it while they had their eczema. Unna never regulates the diet of infants with eczema since he has observed that in those cases accompanied by lowered nutrition, there is improvement in nutrition and consequent increase in weight as soon as the eczema has been healed by external remedies. A most illuminating paper in this connection is one published by Hall.[1] This observer in a series of cases of infantile eczema, some 60 in number, found that in most of them no disturbance of digestion preceded or accompanied the first appearance of the eruption, nor were there any symptoms of indigestion throughout the course of the disease. In most of the cases the patients were breast-fed and, therefore, not exposed to the indigestion arising from improper feeding, and only a small percentage of the cases occurred in the summer months, when, as is well known, infantile indigestion is most common. My own experience corresponds perfectly with that of Hall. Some of the worst cases of infantile eczema I have ever had under my care occurred in infants in whom it was impossible to detect any evidence of indigestion and who were perfect examples of vigorous, healthy babyhood.

There is a widely prevalent and deeply rooted notion that excrementitious matters circulating in the blood, especially those which pass out of the body by way of the kidneys, acting as irritants to the skin are frequent causes of eczema. If this notion were correct eczema should be a frequent complication of such diseases as chronic interstitial nephritis in which the output of waste through the kidneys is frequently reduced to its lowest expression and the blood in consequence is charged with an enormous amount of toxic substances which are often excreted vicariously through the skin to a greater or less extent. Under such circumstances the conditions should be especially favorable to the production of cutaneous inflammation; but eczema, instead of being a frequent complication of chronic nephritis, is quite infrequently associated with this affection. I have seen a considerable number of cases of nephritis and many cases of eczema, but I believe I do not exaggerate when I say that I can readily count on the fingers of both hands the instances in which I have seen these two diseases associated.

Rheumatism and gout figure largely in most lists of the internal causes of eczema, but I do not hesitate a moment to declare that in my opinion the former plays no part in the causation of this disease. As to gout, while I would not deny its influences as a causative factor, I believe its importance much exaggerated.

Now I would not be understood as denying that eczema may arise from causes within the body; on the contrary I believe that it does so arise in a considerable proportion of cases, but I must also confess I believe that a much larger proportion is due to external irritants. What I wish to emphasize is that our knowledge of the internal causes is extremely shadowy and ill-defined, seldom sufficiently accurate to afford a rational basis for internal treatment. All of us have seen patients with eczema get well many times under local treatment alone, but few of us, I venture to say, would expect very satisfactory results from internal treatment alone.

I am well aware that much of the foregoing must seem to many, if not most of you, as rankest heresy, but *"Hier steh' ich; ich kann nicht anders."*

Advance in knowledge comes only with conviction of ignorance; we shall never know anything worth while about the internal causes of this, the commonest disease of the skin, until we are honest with ourselves and admit the insufficiency of our knowledge; until we cease to repeat the meaningless generalities about internal causes with which our textbooks have been filled for a hundred years. *"En médecine plus qu'en toute autre science, il faut être vrai, il faut être consciencieux; c'est pour le médecin qui écrit le plus impérieux de tous les devoirs."*—Devergie.

ABSTRACT OF DISCUSSION.

Dr. Joseph Zeisler, Chicago: I do not entirely agree with Dr. Hartzell, but it has an exhilarating effect on me to find that an American dermatologist to-day stands on the ground occupied by me for many years under the influence of the teaching of Hebra and Kaposi. I have somewhat modified my views in regard to the nature and causes of eczema. Twenty years ago I would have been ready to subscribe to every word said here to-day, but since then my views have undergone a change, and I can no longer afford to look on eczema as a local matter entirely; nor would I feel that I had done my full duty, if called on to treat a child suffering from eczema, if I limited myself to external remedies, to the neglect of internal treatment and a proper investigation and regulation of the diet. I have come to look on rheumatism and gout as very frequent and important etiologic factors in eczema, and I regard the so-called nervous eczema as anything but local in character.

Dr. Grover W. Wende, Buffalo: I am fully in sympathy with Dr. Hartzell's views on the subject, and the method of treatment suggested by him.

Dr. William Thomas Corlett, Cleveland: In the main I agree with Dr. Hartzell, but, while I regard eczema as mainly a local disease, or, in other words, a condition of the skin which may be induced at times by local agencies, yet in infants gastrointestinal derangements frequently accompany the disease. It has also been my experience that the cutaneous disturbance will not yield satisfactory to local measures until the digestive tract has received attention. In most cases, aside from local measures, the selection of a suitable dietary, according to the age and other peculiarities of the child, is all that is required. So frequently has this association been encountered and so frequently has the latter observation been confirmed that I can but regard the internal disturbance as an etiologic factor in the causation of infantile eczema. That this is always the case I do not assert, as the delicate skin of the infant readily responds to local irritation. In treating eczema in general, while I do not go as far as Dr. Zeisler in the use of internal remedies—for I have seldom found them of benefit—I do believe that much may be accomplished in suitable cases by what is vaguely expressed as attention to the general health of the patient.

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[1] British Jour. Dermatology, 1905, xvii.

Dr. Charles J. White, Boston: Although I have not made a particular study of eczema, I am inclined to agree with Dr. Zeisler rather than with Dr. Hartzell. The latter takes it for granted that, because we are ignorant of the internal causes of eczema, there can be none. On the other hand, he does find an external cause, and, therefore, assumes that all cases are due to external causes.

Dr. William A. Pusey, Chicago: I am in accord with Dr. Hartzell's views, as I understand them. In my opinion, we must start with the proposition that eczema is not a definite disease. It is not a pathologic entity. Eczema is simply dermatitis—a reaction in the skin produced by irritation of various sorts, which may be both local and constitutional or either. As a simple dermatitis it may be produced by many causes, but as soon as we discover a specific form of dermatitis, like scabies or seborrheic dermatitis, we eliminate it from the group of conditions that we call eczema. The typical form of eczema in children is, I believe, due in great part to internal causes. On the other hand, there are certain forms of eczema that are due to external causes. And the form due to internal causes presents no essential differences from the form due to external causes. For example, I recall, in a woman, a typical case of eczema of the hands of several years' duration of the form that we usually see produced by some metabolic disturbance. This patient had consulted several eminent dermatologists and she herself ultimately discovered that the eruption was due to contact with primroses, which she was accustomed to care for.

Dr. John A. Fordyce, New York: I agree in the main with Dr. Hartzell, whose views on this subject are somewhat similar to those expressed by me at the New Orleans meeting of this Section. The more I study eczema the more convinced I am that in the great majority of cases the causes of the disease are external. I teach my students that eczema is a reaction in the skin; that it is often impossible to differentiate the histologic features of a dermatitis produced by rhus or iodoform or by other chemical or mechanical irritants from a typical case of eczema in which we are unable to find the etiologic factor. We know that certain external agents will produce eczema. We theorize and say that certain internal causes may produce it, but we can not prove it. As a predisposing factor, we know that certain skins will respond to irritants, just as some mucous membranes are predisposed to catarrhal affections. My opinion is that eczema is a reaction generally produced by irritants from without in individuals with a skin that is predisposed. In exceptional cases the irritant may come from within.

Dr. Henry C. Baum, Syracuse: My first impression of eczema, obtained in Kaposi's clinic, was that it was a reaction of the skin due to external causes. I am convinced now that in any case of so-called eczema an external cause is operating, as Dr. Fordyce said, on a susceptible skin. This susceptibility is very frequently capable of demonstration as emanating from a constitutional cause. Take, for example, a case of infantile eczema in a breast-fed baby whose mother is constipated, nervous and run down. If we put the mother in a better state of health we can often cure the eczema without any treatment directed to the child. We know that some patients with eczema are made worse by an injudicious diet. Eczema may be due to both external and internal causes; otherwise we should have no explanation to offer for an external cause producing eczema in one individual and not in another. The classification and demonstration of the causes of eczema is not always as difficult as one might believe. For instance, I have observed many severe cases which were associated with indicanuria; the eczema disappeared promptly after the disappearance of the indicanuria. Hyperacidity is also frequently associated with eczema, and the alkalies are very useful as adjuvants in the treatment of such patients. If I were deprived of the advantages of constitutional treatment for my patients with eczema, I should feel much handicapped. I believe, as we all do, that the specific cause of eczema can oftentimes be demonstrated as external, but that in other cases it possesses constitutional features.

Dr. M. B. Hartzell, Philadelphia: I do not deny that eczemas may arise from internal causes, but I must repeat that I believe those of internal origin constitute a minority of the cases. The classification of these eruptions is somewhat after this fashion: If we know the irritant which produces the eruption, we call the latter a dermatitis; if we do not know it, we call it an eczema. We have not learned a single thing about the internal causes of eczema during the past century. Listen again to this quotation from Thomas Bateman. He defines eczema as "a non-contagious eruption, generally the effect of an irritant, whether externally or internally applied, but occasionally produced by a great variety of irritants in persons whose skin is constitutionally very irritable." This was written nearly one hundred years ago, and I do not think any one present to-day can improve on this definition. I have known of cases of eczema treated for a long time by a great variety of internal remedies, in which subsequently the eczema was shown to be due to an external irritant, precisely as in the case of primrose poisoning cited by Dr. Pusey. I still believe that most eczemas are of external origin, and that we know little about the internal causes.

Original Articles

RELATION OF PHARMACY TO MEDICINE.*

JOSEPH P. REMINGTON, Ph.M.
PHILADELPHIA.

The cordial relations existing between the two national bodies, the American Pharmaceutical Association and the American Medical Association, have been continued for many years, and in presenting this address, on behalf of the delegation, I am expected to review, briefly, the present situation of pharmacy in its relation to medicine.

Never before in the history of the two associations has the outlook been so promising, not only for the continuance of cooperation, but we are at last beginning to get results. The establishment of branches of the American Pharmaceutical Association in various cities and large centers has added greatly to the influence and usefulness of the parent body.

What is known as the "propaganda" for circulating information among the medical and pharmaceutical professions about the U. S. Pharmacopeia and National Formulary preparations has spread during the last year, notwithstanding the opposition of those interested in proprietary and special preparations, who predicted the failure of the "propaganda." The work is going on; it is essentially a work of education. Commercialism, in its various forms, good and bad, has dominated therapeutics, and while I do not join in the hue and cry against manufacturers of specialties (for this is a legitimate business), I do take issue with the medical profession for allowing itself, with a few exceptions, to depend on the specialty men for their knowledge of therapeutics. The members of this section have often heard statements of this kind, and it seems like an old story; but it is only through constant repetition and a firm adherence to the principles, so often enunciated, that progress is being made.

Patient and persevering effort, all along the line throughout the country, is bringing results. The old method of attacking the sins and the sinners in both professions has proved a failure, and it always will. The church and the state have suffered, and progress has been impeded by pessimism and the efforts of those whose pecuniary interests are affected and who have motives for excusing or defending what they believe to be their interests by attacking the earnest efforts of disinterested men who believe in the highest ethical ideals to elevate both professions and who stand for the greatest benefit to the greatest number. How often men refuse to go to church, saying "There is a man who goes to church every week, but I am a better man than he is." And so in the affairs of state, "There is a man who is mayor or governor, and everybody knows he is unfit, I wouldn't do what he does for any amount of money." Such men sit down and drop their hands idly, satisfying any twinges of conscience by wrapping themselves up in a mantle of self-righteousness. Is it not better to accept, in our time and generation, our fellow-men as they are, and patiently and persistently, but kindly, set before them a more excellent way?

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* Read as delegate from the American Pharmaceutical Association to the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

This is now the policy which pervades the earnest efforts to increase the influence of the "propaganda." Let us admit freely, that in both professions there are individual members who are unworthy, but why dwell on the sins and sinners; why not set before them a way of escape? Condemnation, even if it is just, is worthless, unless something better is put in the hands of the ignorant or careless; indeed, it is a most difficult task, at present, to arouse the interest of good men in both professions, in some quarters. The first principles of ethics must be explained, and even when these are accepted with enthusiasm the convert must be bombarded with literature and often personal effort to keep him long enough in the new way until he can see the results, which come from the use of definite preparations, fully up to the pharmacopeial standards.

In the pharmaceutical ranks there is also much work to be done. Physicians complain that there is yet ignorance, on the part of the pharmacist, about preparations of the Pharmacopeia and National Formulary, and that they can not get, promptly, what they order or prescribe. While this is natural, under the circumstances, it is to be deprecated, and there is no excuse to offer, but it is a condition which is being rapidly remedied. The work of the American Medical Association, in providing a manual of Pharmacopeial and National Formulary preparations in a convenient form for consultation, has been a wise step in educating physicians. If every physician in the country would promise to use such of these preparations as he can, without at once forsaking entirely the specialties that he has been using, the most practical beginning will have been made; common sense would plainly indicate such a course. And again, as we are starting to revive prescription-writing at its best, the old relation, which has been largely abandoned of late years, of the physician calling on the pharmacist in his neighborhood and asking to be shown the newer preparations which are ethical, must lead to more useful results than the prescribing of a ready-made remedy, which probably has been tried already by the patient, with unsuccessful results.

In conclusion, the American Pharmaceutical Association presents to this body its greetings, and offers to coöperate with the American Medical Association and this section in every effort to advance ethical pharmacy and rational therapeutics; and, in this way, it is believed that the tide of "therapeutic nihilism," which is fast waning, will have been turned backward, and the medical profession, while keenly alive to every improvement in the armamentarium, will soon be placed on a solid foundation of truth.

OPHTHALMOLOGY FOR GENERAL PRACTITIONERS.*

LEARTUS CONNOR, A.M., M.D.
DETROIT.

DEFINITION.

General practice does something for every class of cases; special practice everything for a single class. General practice ophthalmology should harmonize with other college courses and meet the needs of the family physician; special ophthalmology supplements college courses and family practice. General practice is a large load drawn slowly by many horses; special practice a light load drawn swiftly by a single horse. General practice is extensive farming; special, intensive. For convenience of discussion we shall call "the ophthalmology for students of general practice" "general practice ophthalmology," as contrasted with "special ophthalmology."

STANDPOINTS OF STUDY.

"General practice ophthalmology" may be studied from many standpoints: Its relation to other college courses; to other kinds of family practice; to the entire field of medicine; the needs of the laity; and to special ophthalmology.

1. *Relations of General Practice Ophthalmology to Other College Courses.*—Respecting these courses, it is to be noted that the last half century has projected into medicine many radical discoveries and revolutionary inventions along fundamental lines. Instruments of precision, laboratory work, antiseptic methods, new sera, have introduced a possible exactness before undreamed of. Prior to this epoch one teacher was responsible for an entire course; so the mastery of his lectures was the mastery of his course. Such mastery equipped the young practitioner for his life work, giving definite ideas on which to begin the management of his first cases—ideas that were the result of his teacher's long study and active practice, and so worthy of confidence. With increased material and the introduction of laboratory and clinical methods, many teachers were needed in each course. The results were easy to see, as "too many cooks spoil the broth." Confused by conflicting instructions, on meeting his first serious case the young doctor often hesitates, and another is substituted.

The number, length and quality of college courses vary; in Cornell there are twelve general and thirteen special courses, ophthalmology getting ten lectures and twelve hours of section work, being classed as a minor subject. Doubtless Cornell, with other leading colleges, is struggling to so proportion and harmonize these twenty-five courses that they shall afford the student the best chance to become a first-class family physician.

A study of all American medical college announcements as related to their "ophthalmology for students of general practice" showed:

1. An utter lack of uniform requirement in hours of study, subjects studied or amounts of such study, in clinics, recitations or demonstrations.
2. Such a mixture of general practice ophthalmology with special as is confusing to both general and special students.
3. Not one institution made clear what the student must know and be able to do. Surely the student of

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*Read before the American Academy of Ophthalmology and Oto-Laryngology.

"general practice ophthalmology" has our sympathy in his endeavor to learn from college announcements the nature and extent of the job before him. The situation is the more distracting, as like conditions exist in each of the twenty-five or more courses. Since each course is a selection from a vast pile of settled facts, it is fair to expect the selector to give the student a list of the subjects selected, with the amount of each.

A short time ago, at the meeting of a Michigan county medical society, a poll was taken of the members relative to the instruction they had received in ophthalmology. Not one had heard a lecture on refraction, much less been taught to refract; all had seen plenty of eye operations (but none had ever operated); a few of their eye cases went to the special ophthalmologist, but most to the opticians. In all large towns opticians practice ophthalmology; in the country traveling opticians live on neglected cases of refraction. Over the same area are cases of blindness from eye infections which family physicians failed to treat wisely. Surely, something must be defective in the training of family physicians, that so generally they are unqualified to occupy this neglected field of medicine.

Evidently the time and energies of the average medical student are fully occupied with existing courses, so that if he is to be better trained in general practice ophthalmology a new deal must be made. What shall this be? Time forbids an answer now, but we may inquire:

1. Is the time allotted each college course such as to produce the best family physician?
2. How much of each course is inaccurate, misleading, untrue or simple padding?
3. What part of the course on ophthalmology has any fitness for the working needs of the *family physician?*

I have a strong conviction that were all college courses free from chaff and full of good wheat, there would be plenty of time and energy for a general practice ophthalmology adequate to enable the family physician to treat cases neglected or now in the hands of the opticians.

An important factor in the working value of a medical course is the teacher. If he has learned the art of teaching as well as the art of medicine, he can so systematize his subject and stimulate the student that far more can be accomplished within a given period. That a doctor should acquire the art of teaching by practicing on students is quite as bad as a layman learning the art of medicine by practicing on the sick. General practice ophthalmology needs men trained both in medicine and pedagogy to furnish students the best college course and give family doctors a fair show in actual practice.

2. *The Relations of General Practice Ophthalmology to Other Kinds of Family Practice.*—The family physician does team work; side by side with ophthalmology are dermatology, obstetrics, gynecology, laryngology and other classes of practice—all limited, as is ophthalmology. He finds that his ophthalmology helps his internal medicine, his neurology, his obstetrics and every other class of cases; in return, every class of cases helps his ophthalmology. He comes to realize, as a simple specialist can not, the helpfulness of one class of practice to another, and to *all combined.* Thus, the student's failure to master general practice ophthalmology mars the harmony of his education and unbalances his practice, as does the lack of one horse from a team cripple its power.

3. *The Relations of General Practice Ophthalmology to the Entire Field of Medicine.*—Already we have noted the fact that because the family physician lacked adequate equipment in ophthalmology, vast amounts of medical practice have been neglected by the profession and picked up by laymen, termed opticians; and many eyes are lost from unchecked infectious eye diseases. In these and allied ways general medicine has been discredited and impoverished, the family physician lost much in fees, prestige and mental quality.

4. *The Relations of General Practice to the Needs of the Laity.*—The laity need doctors when their eyes are disabled, and should be taught such habits as will restrict their disabilities to a minimum. In towns the "well to do" can secure the services of special ophthalmologists; the very poor seek relief at hospitals and dispensaries. Between these two extremes is a large class unwilling or unable to pay the special ophthalmologist and without the dispensary habit. This class is a large patron of opticians, though these persons have family physicians who ought to have trained them better. (Alas, the family physicians never were taught the situation, and so, too often, are allies of the optician, instead of their own specialists.)

For this grave situation (from a professional standpoint) the only remedy is a qualification of every family physician in general practice ophthalmology. In regions distant from towns conditions demand of the family physician an ability to care for all minor eye troubles and an obligation to place the major ones in the hands of a special ophthalmologist. The laity needs an all-round doctor all the time, a specialist occasionally.

5. The relations of "general practice ophthalmology" to "special" will prove satisfactory only when both parties have a general practice ophthalmology through which they may cooperate. This common knowledge will enable the family physician to detect ocular disabilities now unrecognized, treat the simpler and refer the rest to a specialist, with a promptness essential to the best results. As this custom prevails, eye practice now in the hands of opticians or neglected will come under the control of competent physicians. The specialist should render positive aid and encouragement to the family physician as he seeks to cultivate this unoccupied field.

The principles inherent in a general practice ophthalmology may be stated thus: (1) The several college courses should be proportioned on the basis of their value in making the best family physician, a task for college faculties, or, in their failure, for state licensing boards. (2) The materials for each course, didactic, clinical, demonstrative or laboratory, should be selected by the same standard. (3) Each course should be outlined with unmistakable exactness, so that the student may know definitely, at the beginning, what he must master, and how much. (4) As abundant *facts* exist to occupy every course: *all* else should be excluded, leaving all wheat but no chaff. (5) No teacher should advocate methods of practice, the use of remedies or operations unproved by his own experience as the best known. (6) So far as possible, *students* should have experience in each mode of practice, make the examination, direct the treatment, and (under the teacher) be responsible for the results. College courses conducted along these lines would enable the student of general practice ophthalmology to perform an amount of high grade work paralyzing to his neighbor trained in a haphazard manner.

The subjects of a general practice ophthalmology will vary with the selector's training. That I might have the judgment of professional leaders, I mailed a circular letter to about a hundred special ophthalmologists, surgeons, professors of practice of medicine, neurologists and family physicians, asking two questions: (1) What, if any, knowledge of ophthalmology is essential for the best equipment of a general practitioner? (2) What classes of eye cases should he be prepared to treat? (For the prompt and courteous answers to these queries I cordially return thanks.) The replies may be grouped as follows:

A. Those who thought no general practitioner should treat an eye case, but send every one to a specialist.

B. Those who believe the family physician should be able to practice special ophthalmology and special everything else, do all eye operations, as well as operations in gynecology and general surgery.

C. The neurologists were strong on those points at which ophthalmology touched their work, holding that to those should be added an ability to manage eye infections, including iritis and differentiate glaucoma from iritis, etc.

D. Many believed the family physician should treat infectious eye diseases, diseases of the uveal tract, and make a correct diagnosis of optic neuritis.

E. Few believed the family physician should be able to recognize and treat cases of simple presbyopia, myopia and hyperopia.

With much hesitation I venture the following outline of the subjects I would group in general practice ophthalmology:

1. It would not include operations within the eyeball, or on the eye muscles, the treatment of muscular unbalance, or complicated cases of refraction.

2. It should qualify students to recognize and treat injuries of the eye, except foreign bodies within the eyeball, all infections of the eye, diseases of the uveal tract and simple presbyopia, simple myopia and simple hyperopia.

3. It would enable students to make a simple inspection of the eyes; to note the movement of the lids and eyeballs; the size of the pupils, absolute and relative, their motility and changes with intensity of light; the color of the iris, etc.; to take the visual fields roughly with fingers or blackboard, noting their size, shape and similarity in the two eyes; to note the tension of the eyeballs as compared with the tension of a known healthy eye; to have practice in everting the lids, and to be familiar with the appearance of the conjunctiva and adnexa.

4. It would practice students in simple refraction until they were familiar with methods and reasonably sure of their results. It would familiarize them with convex and concave glasses, both in the trial case and as sold in the shops, and the adjustment of frames to different faces. General practice ophthalmology would enable the student to differentiate the several forms of conjunctivitis; the varieties of iritis in their different stages; the several lid disorders; redness of the conjunctiva from a foreign body, from a conjunctivitis, keratitis or iritis; a dacryocystitis from either a chalazia or hordeolum when situated near the inner canthus; a corneal opacity from cataract; glaucoma from iritis, conjunctivitis or corneal ulcer.

In treatment, general practice ophthalmology will utilize laboratory findings in doubtful cases of infectious eye disease and apply the agents known to destroy the infection, such as silver salts in gonococcus infection, zinc sulphate in infection with the diplobacillus of Morax-Axenfeld; mercury ointments in blepharitis, plus correction of refraction defects; tincture of iodin in corneal ulcers; expression and antiseptics in trachoma; atropin with mercury or salicylates internally in iritis; eserin in glaucoma (till the case can reach a specialist); hot water locally in most cases of acute inflammatory disease and malnutrition. The family physician's knowledge of intestinal disorders will prove helpful in all these cases.

General practice ophthalmology will teach the student the use of the convex lens for oblique illumination; use of the foreign body spud; of the knife and scoop for the removal of chalazia; the use of the ophthalmoscope to recognize a normal fundus. It will teach the nature and effects of atropin, hematropin, euophthalmin, eserin, cocain, eucain, dionin, boric acid, yellow oxid of mercury ointment the silver salts, zinc sulphate, copper sulphate and hot water.

Assuming that "general practice ophthalmology" is necessary for the best interests of the profession, the people and the art of medicine, how may it be secured with least friction at the earliest date?

1. We need the widest publicity of existing conditions and an exhaustive study of the means for their betterment.

2. We must enlist the several state organizations in the education of family physicians for their enlarged sphere—the care of all the disabled. The Michigan State Medical Society has directed its council to take the matter up with the county societies and the State Board of Registration.

CONCLUSIONS.

1. General practice ophthalmology is all of ophthalmology the student can master without violence to other courses, and a family physician can practice in harmony with his work.

2. It includes four factors—the ability to recognize and treat eye injuries (except foreign bodies within the eyeball); the recognition and treatment of all eye infections and diseases of the uveal tract; the recognition and management of simple presbyopia, simple myopia and simple hyperopia.

3. The best interests of the profession and laity demand a mastery of general practice ophthalmology by every physician.

4. The medical college obstacles to this can be removed (1) by eliminating from every course all chaff; (2) by adjusting the proportion of courses to the actual needs of the family physician, and (3) by insisting that all the professors be trained in the art of pedagogy, as well as the art of medicine.

5. The machinery of state medical societies and the American Medical Association should be used to awaken the interest of licensed physicians and induce registration boards and medical colleges to place among their requirements a "general practice ophthalmology."

91 Lafayette Boulevard.

Hernia of the Appendix.—W. B. DeGarmo, in the *Post-Graduate*, August, 1908, states that in hernia patients it is important to remember the possibility of the appendix being in the hernial sac instead of assuming that all the patient's discomfort is due to the hernia.

THE OCULAR REACTION TO TUBERCULIN.

WITH REPORT OF 202 CASES.

OSCAR H. WILSON, M.D.
Assistant Demonstrator Clinical Medicine, Jefferson Medical College; Assistant Registrar, Philadelphia General Hospital.
PHILADELPHIA.

The necessity for the early recognition of tuberculosis was never more apparent than it is to-day. The difficulties attending the recognition of this affection in its incipiency are numerous, this being especially true of obscure lesions of the lymphatic glands, bones, joints, viscera and nervous system. Infection of these structures with the tubercle bacillus *frequently* gives rise to indefinite and ill-defined symptoms and signs which often leave us in great doubt as to the nature of the underlying pathologic process. With the introduction of refined methods of diagnosis we are able to arrive at earlier and more definite conclusions. The employment of tuberculin subcutaneously proved to be a valuable addition to our diagnostic armamentarium, but this use of tuberculin subcutaneously is attended with numerous objections and dangers which are too well known to require repetition at this time.

The simultaneous introduction of the ophthalmic test by Calmette[1] of Lille, France, and Wolf-Eisner[2] of Berlin gives promise of being a simpler and more accurate method of administering tuberculin for diagnostic purposes. The reports of recent investigators seem to confirm in general the claims made by the originators of this test. Too little work has yet been done to establish the exact status, limitations and dangers of the test. In the endeavor to add something to the sum total of our knowledge of this subject I applied this test to 202 hospital patients. The majority of patients selected were those presenting definite symptoms and signs of tuberculosis, so that the test could be compared with the clinical and bacteriologic findings.

CLINICAL OBSERVATIONS.

The results of my observations are as follows:

Condition.	Cases, No.	Positive.	Negative.
1. Pulmonary tuberculosis	120	106	14
2. Pulmonary tuberculosis (doubtful)	13	3	10
3. Apparently healthy persons	53	3	50
4. Enteric fever	11	6	5
5. Syphilis	5	0	5

It will be noted that fourteen cases of undoubted tuberculosis yielded a negative result. In six of these cases the pulmonary lesion was well healed and inactive. Of the remaining eight patients, three were moribund and two were suffering with acute miliary tuberculosis. Tuberculin in amounts varying from 1/1000 to 1 milligram was injected subcutaneously in the fourteen cases which yielded a negative result. In four cases it caused the development of the characteristic reaction in the eye, which had been subjected to the tuberculin instillation. The moribund patient and those with acute miliary tuberculosis failed to respond. In five of the cases which gave a positive reaction the employment of tuberculin subcutaneously seemed to aggravate the existing inflammation, but in none did it cause a reappearance of the inflammatory signs after they had abated.

It will be noted that in three of the doubtful cases there was a positive reaction, likewise in three apparently healthy individuals. These patients were subjected to a most searching examination, but in none could the presence of tuberculosis be detected.

Twenty-five of the apparently healthy individuals who gave a negative reaction were subjected to a second instillation in the same eye, and in eighteen there was a positive result. Some of the most severe reactions observed were obtained in this class of patients by a second instillation in the same eye. The cases which yielded a positive result were subjected to a third instillation in the other eye, with a negative result in each case. This experiment seems to prove that the state of anaphylaxis is not transferred to the other eye.

Five patients in whom the state of anaphylaxis was established by two instillations in the same eye were given 1/100 mg. of tuberculin subcutaneously. No constitutional symptoms followed, showing an absence of general hypersusceptibility.

Tuberculin, in amounts varying from 1/1000 mg. to 1 mg. was injected subcutaneously in fifteen of the healthy patients who gave a negative reaction. In none did it cause the development of the characteristic conjunctival inflammation.

Five of the six patients with enteric fever who gave a positive reaction were at an early period of convalescence; one was obtained during the active stage of the disease. Of the five patients who yielded a negative result, four received instillations during the third week of the disease, the remaining one during convalescence.

Regarding the occurrence of a positive reaction in typhoid, Calmette[3] suggests that "there may be some connection between the presence of a few tubercle bacilli in the mesenteric glands and the typhoid infection of these glands and thence of the entire organism by the typhoid bacillus, which is a normal inhabitant of the intestines in a number of healthy persons."

Cohn[4] believes that a specific hypersusceptibility to bacterial albumin in general is evolved in the course of typhoid fever, as well as to typhoid bacillus extracts in particular. Whatever may be the true explanation, the fact that a certain proportion of all typhoid patients react is well established.

The syphilitic patients, all of whom failed to react, were given instillations in the endeavor to determine if the other chronic infectious granulomata also responded to instillation of tuberculin. No cases of leprosy, actinomycosis or glanders being available, the occurrence of the reaction in these affections could not be determined.

PREPARATION EMPLOYED.

The tuberculin tablets which are so frequently employed are directed to be dissolved in sterile water; solution, however, can not be effected, the resulting preparation containing suspended insoluble particles, which gradually settle to the bottom. Care must be exercised to mix thoroughly before using, so as to be assured a uniform product. The suspended insoluble particles, in my opinion, are capable of exciting considerable irritation in susceptible conjunctiva. In this way pseudoreactions may be produced. Calmette believes that the presence of glycerin or carbolic acid in the new or old tuberculin is sufficiently irritating to produce pseudoreactions. MacLennan[5] apparently disproves this statement, as he instilled into many healthy eyes 1 per cent. solutions of glycerin and carbolic acid without producing a reaction.

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[1] Compt. rend. de l'Acad. d. sc., June 17, 1907.
[2] Berl. klin Wchnschr., 1907, xliv, 700.
[3] Bull. de l'Acad. de méd. de Paris, lxxii, 33-80.
[4] Berl. klin. Wchnschr., xliv, 1499-153.
[5] Brit. Med. Jour., Dec. 7, 1907.

I believe that as yet there is no definite method for standardizing tuberculin; therefore, we can not be assured of always employing a uniform and definite product.

Smithies and Walker,[6] in a recent paper, stated that the tuberculin they employed was a suspension of fragments of dead bacilli. I have examined several tuberculin preparations on the market and in none was I able to demonstrate the presence of bacilli or fragments of such. In my experiments I employed tuberculin solutions (?) of 0.5 and 1 per cent. The 0.5 per cent. solution gave the most satisfactory results and should be employed in nearly all cases. By so doing the possibility of securing violent reactions is reduced to a minimum. Normal salt solution was frequently employed to dissolve (?) the tuberculin. It is admirably adapted for this purpose and seems to be much less irritating than sterile water.

THE REACTION.

There seems to be a difference of opinion existing as to what constitutes a reaction. Calmette in his original contribution to this subject described the reaction as "a slight swelling and redness localized principally about the caruncle, the inner canthus and the conjunctiva." Auberet and Lafond[7] and Auberet and Magne[8] describe four degrees of reaction, depending on the severity of the inflammation. Their classification is cumbersome and serves no useful purpose. For recording reactions I employed the schema devised by Baldwin[9] and found it simple and convenient. His plan is as follows:

Negative.—No difference in color when lower lids are pulled down and compared.
Doubtful.—Slight difference with redness of caruncle.
+ = Distinct palpebral redness with secretion.
+ + = Ocular and palpebral redness with secretion well marked.
+ + + = Deep injection of entire conjunctiva, with edema of lids, photophobia and secretion.

In the series of patients examined the average time of development of the reaction was about five hours. The earliest made its appearance in two and one-half hours; in two the reaction was delayed for nearly twenty-four hours. These so-called delayed reactions have been described by other writers. They may be due to faulty technic or to the fact that the instillations were made in the negative phase so that a response did not occur until the positive phase was established.

Several fleeting reactions were observed, in which very mild inflammatory signs appeared and disappeared in the course of twenty-four hours. These may be attributed to faulty technic, some of the tuberculin escaping, or to the patient deliberately removing the tuberculin from the eye. I am inclined to think that they are pseudoreactions, as most occurred in individuals free from tuberculosis.

The marked inflammatory signs in most cases abated in forty-eight hours, but in a few cases they persisted for seventy-two hours. The vascular engorgement, however, was distinctly visible in many cases one week after the instillations. Several violent reactions were observed, but these, I believe, can be avoided in most cases by employing tuberculin of proper strength.

The lack of uniform and definite standards for judging the occurrence of the reaction in all probability will account for some of the varying results of numerous observers. Recent writers on this subject seem to be of the opinion that the intensity of the reaction bears no relation to the extent of the disease. While this may be true in a general way, yet my experience shows that those individuals with small lesions and good resisting powers gave the most prompt and pronounced reactions.

The claim of Wolff-Eisner and Teichmann[10] that the intensity of the reaction has an important bearing on the prognosis seems to be confirmed by my observations. Those patients who were waging vigorous warfare against the invaders and apparently successfully combating the disease, always gave a prompt and vigorous reaction; while in those who were overwhelmed with the infection the reaction was slight or *nil.*

CONTRAINDICATIONS AND DANGERS.

Blepharitis, conjunctivitis, keratitis, trachoma, and iritis are all said to contraindicate the employment of this test. Eyestrain from errors of refraction need not prevent the application of the test. In the series of cases examined were several elderly individuals with a chronic hyperemic condition of the conjunctiva. The instillations served to aggravate the pre-existing inflammation in those patients who were tuberculous; no effect was apparent in non-tuberculous patients. Numerous reports of untoward effects following the instillation of tuberculin have appeared in the literature. Chief among these is catarrhal ulceration of the cornea, which ophthalmologists claim is often not apparent to an untrained observer. In the comparatively large number of patients whom I examined some severe reactions were observed, but in no instance did serious results follow the instillations.

TREATMENT OF THE CONJUNCTIVITIS.

The inflammation was rarely severe enough to demand active treatment. In the great majority of cases no treatment at all was instituted. In the more severe cases cold compresses were applied to the lids and the conjunctival sac cleansed frequently with a warm solution of boric acid. Solution of adrenalin chlorid (1 to 10,000) was employed in a few cases. These measures relieved the subjective symptoms, but apparently did not diminish materially the intensity or duration of the reaction.

TUBERCULOUS CASES WHICH FAIL TO REACT.

It has been the experience of numerous observers that cachectic, moribund and very advanced paients fail to react. This is also true of acute miliary tuberculosis and of cases in which the lesion is well healed and inactive. My experiments confirm in every particular the results of these investigators. It seems unreasonable to expect reactions to occur in advanced cases, any more than we could hope to obtain a response to the hypodermic administration of strychnin or other alkaloid. Fortunately in this class of cases the diagnosis is rarely in doubt. The difficulty frequently attending the recognition of miliary tuberculosis is well known, and it was hoped that the ophthlamic test would prove a valuable aid in the diagnosis of this affection. Experience, however, has proved the test to be of little value in this condition.

The two patients whom I examined gave a negative result. The subsequent administration of tuberculin subcutaneously failed to develop the reaction.

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[6] THE JOURNAL A. M. A., Jan. 25, 1908, l, 259.
[7] Gaz. hebd. d. sc. méd. de Bordeaux, Aug. 4, 1907.
[8] Jour. de méd. de Bordeaux, Aug. 25, 1907, xlix, 1969
[9] THE JOURNAL A. M. A., Dec. 14, 1907.
[10] Berl. klin. Wchnschr., xlv, 45-88.

The cause for the failure of the reaction in this class of patients has not yet been satisfactorily explained. Smithies and Walker[11] believe that the blood is so laden with tubercle bacilli that they seize the available lysins and opsonins, leaving little or none to combine with the bacilli, or the fragments of such enmeshed in the conjunctiva. As a consequence, the endotoxin is not released locally and no inflammation ensues. Their theory, however, is based on the erroneous idea that the tuberculin consists of fragments of dead bacilli.

The failure to obtain the reaction in a certain proportion of cases, in which the lesions are well healed and inactive, probably finds its best explanation in the fact that sufficient tuberculin is not being elaborated into the circulation to bring about a sensitization of the conjunctivæ.

There are cases of undoubted tuberculosis which fail to react, and this failure may be dependent on one or several of the following factors:

1. *Faulty Technic.*—I have seen several cases in which the negative results could be directly attributed to this cause.

2. *Poor Tuberculin.*—The possibility of the tuberculin being inert must always be borne in mind. The tuberculin of a well-known manufacturer, in my hands, gave a negative result in twenty-five undoubted cases of tuberculosis. The same patients gave a prompt response to another preparation of tuberculin, care being exercised to make the second instillation in the opposite eye.

3. *Instillations Made in the Negative Phase.*—This question has not yet been definitely settled, but it is possible that future experiments will prove that tuberculous patients will only react when in the positive phase, that is, with the opsonic index normal or above, and with the defensive forces of the body active.

4. *Method of Infection.*—Raw advanced the view that certain forms of tuberculosis were due to infection with human bacilli, while others were due to infection with bovine bacilli. This suggests the possibility that failure to obtain reaction in certain tuberculous patients may be due to the employment of tuberculin prepared from a different type of bacillus from that with which the patient is infected.

REACTION IN APPARENTLY HEALTHY PERSONS.

My experiments, as well as those of other investigators, show that a certain number of apparently healthy individuals give a positive reaction. The occurrence of reactions in these cases may be dependent on one or more of the following factors:

1. The great difficulty in demonstrating certain patients to be clinically tuberculous. This is well illustrated by the autopsy records; which show a large number of cases to be tuberculous, in which the condition was not apparent during life.

2. The tolerance of the conjunctiva of healthy persons to tuberculin. Tuberculin solutions of 1 per cent. or above are capable of exciting inflammation of the conjunctivæ of healthy persons. Solutions of this strength should rarely be employed.

3. The possibility of the patient rubbing and irritating the eye, thereby producing a pseudo reaction, must always be borne in mind.

4. Idiosyncrasy. It is possible that experience will show that certain individuals possess a marked susceptibility to tuberculin, as is frequently manifested to certain drugs.

CONCLUSIONS.

1. A positive reaction is fairly reliable evidence of the existence of tuberculosis.

2. A negative result does not exclude the possible presence of tuberculosis.

3. In properly selected cases and with tuberculin of proper strength, the test is free from any serious danger.

4. Tuberculin solutions of 0.5 per cent. are to be preferred in all cases; solutions of greater strength should rarely, if ever, be employed.

5. The test is of value from the standpoint of prognosis. A prompt and vigorous reaction indicating that the patient is successfully combating the disease.

6. Very advanced and moribund cases fail to react, also cases of miliary tuberculosis.

7. The administration of tuberculin in moderate amounts, subcutaneously, will not develop the reaction in healthy persons. In tuberculous patients it accentuates the pre-existing inflammation, and may cause the appearance of the reaction. It apparently fails to develop the reaction in cases of acute miliary tuberculosis

8. The theory of the existence of the state of anaphylaxis or local hypersusceptibility best explains the occurrence of the reaction.

9. No more than two instillations should be made, the opposite eye being employed for the second test.

10. The state of anaphylaxis or local hypersusceptibility produced in healthy persons is apparently not transferred to the opposite eye.

11. The sensitization in the eye does not seem to be followed by a general hypersusceptibility, manifested by a reaction to the subcutaneous injection of tuberculin.

12. In the great majority of cases no constitutional symptoms are associated with the reaction. No alteration occurs in the physical signs, such as frequently occurs following the administration of tuberculin subcutaneously.

13. A certain proportion of enteric fever cases give a positive reaction. This is most apt to occur in patients who are convalescing.

14. As yet there is no definite evidence for regarding it as a group reaction.

15. When the lesion is well healed and inactive a negative result is often obtained.

16. The test should not be resorted to if the diagnosis can be made by physical signs and symptoms.

The investigations which form the basis of this paper were conducted in the wards of Dr. Hobart A. Hare, Dr. S. Solis-Cohen and Dr. H. R. M. Landis, in the Jefferson and Philadelphia General hospitals. Without their aid the completion of this work would have been impossible. I feel deeply indebted to them for allowing the tests to be conducted in their wards.

5128 Spruce Street.

Treatment of Hammer Toe.—E. Martin gives an illustration in the *Zeitschrift für Ærztliche Fortbildung*, Oct. 1, 1908, of a simple method with which he keeps hammer toe under control. He passes a piece of elastic webbing, about an inch wide and a yard long, over the affected toe and under the other toes, then crosses the ends of the elastic over the dorsum of the foot and behind the ankle, fastening the ends together in front above. If the toe is contracted downward the elastic band is passed under it and over the other toes. This simple measure has cured many cases of contracture in his experience and aided in the healing after tenotomy.

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[11] Lancet, London, Feb. 15, 1908.

ABNORMAL SECRETION FROM THE MAMMARY GLANDS IN NON-PREGNANT WOMEN.*

GEORGE GELLHORN, M.D.
Lecturer on Gynecology, Medical Department, Washington University.
ST. LOUIS.

An accidental accumulation of cases of abnormal secretion from the mammary glands in non-pregnant women, coming under my observation, led me to investigate the literature on this curious phenomenon.

The occasional occurrence of such an abnormal secretion in the newborn of either sex is sufficiently known, but a satisfactory explanation has not yet been given. Steifensand,[1] in 1845, was the first to call attention to the fact that, in the newborn, all glands exhibit a very pronounced activity. Basch[2] ascribes the phenomenon to the welling up of the secretion toward the surface, thereby loosening the hornified epithelium which clogs the orifices of the milk ducts. Bumm[3] says that the skin of the newborn is very sensitive and responds to the influence of air and light by reddening and exfoliation of the uppermost layers of the epidermis. This irritation of the skin is also the cause of the secretion of the mammæ which, as yet undeveloped, have the appearance of somewhat large sweat glands and secrete, within the first week, a few drops of a whitish fluid. On the other hand, Longridge,[4] who carefully studied the mammary glands of stillborn infants, finds that in large children with abundance of subcutaneous fat the breasts are usually well developed irrespective of sex. The breast tissue can be distinctly felt as a solid mass lying below the primary areola, and on squeezing it a fluid which, on microscopic examination, is indistinguishable from milk, can be expressed. Starling and Lane-Claypon,[5] pursuing the idea that chemical factors must play an important rôle in the correlation of function between different parts of the body, think that the activity of the infantile breast is brought about by the presence in the fetal circulation of the same body which acts as the physiologic stimulus to the mother's breasts; this body probably originates within the fetus itself. The existence of such a "chemical messenger" is also assumed by Halban, though his theory of its nature and origin materially differs from that of Starling. Halban concluded from his researches[6] that pregnancy produces local phenomena in the fetus which are identical, though not as intense, with those in the organism of the mother. Thus, not only the uterus, but also the mamma of the fetus hypertrophies in pregnancy and exhibits characteristic histologic changes. In a later study[7] he attributes the causation of this mammary hypertrophy to an internal secretion of the placenta.

Whatever the nature of this "witches' milk" of the newborn may be, the activity of the breast soon ceases or lies dormant until the mysterious force of puberty stimulates it into new life. The swelling and soreness of the virginal breast, together with a limited secretion of a colostrum-like fluid on the advent of the first menstruation, are too frequent an occurrence to require more than mention. In some cases this correlation of mammary and uterine functions becomes permanent, at least for a number of years. Only the remarkable case reported by Blum[8] may be here recorded. A girl, 17 years of age, with two well-developed mammæ in their normal place, has, in the region of the mons veneris, a third mamma of the size of a goose egg, with seven nipples. Of these only four secrete regularly a copious amount of colostrum before and during the first day of menstruation. The two normal mammæ do not secrete at all.

In exceptional instances this lacteal secretion may altogether take the place of menstruation. Puech and Courty[9] have collected twenty-six cases of such vicarious menstruation, to which the cases of Landau[10] and Gautier[11] may be added. In the observation made by Jones[12] this vicarious menstruation manifested itself, during five years, by an abundant flow of milk lasting thirty-six hours every month.

It seems plausible that an appropriate stimulus can intensify this virginal secretion sufficiently so that it can nourish an infant. It is true that the older literature which abounds in instances of this kind can not withstand the test of scientific criticism. Yet there are cases reported by trustworthy observers which must convince us of the possibility of such an occurrence. The most widely cited instance, that of a girl of 8 years, who had suckled her infant brother for a month, was recorded by Baudelocque, and the young wet-nurse demonstrated before the Surgical Society of Paris in 1783.

Knott[13] vouches for three cases of abnormal lactation in nurse-girls who had charge of babies whose mothers were unable to carry out the function of maternity. "In each case the girl allowed the very uneasy bedfellow with whom she was thus supplied to play with her breasts and suck the nipples as the only possible way of procuring even a fragmentary night's sleep." In each, an increased sense of fulness and warmth in the mammary glands occurred and was followed in a couple of days by the appearance of a copious formation of milk. This, however, yielded very easily to simple treatment. Noël,[14] who has collected a large number of instances of abnormal secretion, mentions the case of a young married woman who had never had sexual intercourse. This woman took care during the day of an infant of six months, who, until then, had been nursed by his mother. As the child refused the bottle, she offered him her breast with the surprising result that the mammæ, heretofore rather small, increased in size and secreted a large quantity of milk, so that the child grew visibly and refused the mother's breasts after the latter's return from her trip. The nursing, at first quite painful, soon created an agreeable sensation. During the night, the engorgement of the breasts became very uncomfortable, so that the next morning was always expected with impatience.

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*Read in Section on Obstetrics and Diseases of Women of the American Medical Association at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] Quoted from Knapp; F. von Winckel's Handbuch der Geburtshilfe, 1904, ii, part 1, p. 163.

[2] Beitrag zur Kenntnis des menschlichen Milchapparates, Arch. f. Gynäk. xl, No. 1.

[3] Grundriss z. Studium d. Geburtshilfe, ed. 2, 1903, p. 271.

[4] Infantile Breast Tissue, Jour. Obstet. and Gynec. Brit. Emp., March, 1908, p. 165.

[5] The Chemical Control of the Body, THE JOURNAL A. M. A., March 14, 1908, l, 835.

[6] Schwangerschaftssecretionen der foetalen Organe, Ztschr. f. Geburtsch. and Gynäk., 1904, liii, 191.

[7] Die innere Secretion von Ovarium und Placenta, Arch. f. Gynäk., 1905, lxxv, 353.

[8] München. med. Wchnschr., May 21, 1907, No. 9.

[9] Quoted from Hennig: Zentralbl. f. Gynäk., 1908, No. 18, p. 601

[10] Landau, T.: Ueber einige Anomalien der Brustdrüsensecretion, Deutsch. med. Wchschr., 1890, p. 745.

[11] Gautier neveu: Un cas de sécrétion lactée remplaçant les règles chez une jeune fille vierge, Lyon méd., 1903, p. 199.

[12] Am. Jour. Obstet., 1897, p. 92.

[13] Abnormal Lactation in the Virgin, Am. Med., 1907, p. 373.

[14] Noel, H.: Nouvelles observations de sécrétion lactée chez les femelles non fécondées et chez les mâles, Echo. méd. d. Cévennes, 1901, p. 207.

These few references may suffice, particularly as they are corroborated by the observations of animal breeders. Thus virginal sheep, bitches and rabbits have occasionally been found to secrete milk. The stimulating cause in animals must be sought in rut and sexual intercourse. To select only one of the many writers on this subject, Harvey[15] stated that overfed bitches, which admit the dog without fecundation following, are nevertheless sluggish about the time they should have whelped, and bark as they do when their time is at hand, and also steal away the whelps of another bitch, tend and lick them, and fight fiercely for them. Others have milk or colostrum in their teats and are, moreover, subject to the diseases of those which have actually whelped.

An interesting observation on the relationship of mammary secretion and menstruation is recorded by Noël,[14] who had in his possession for a dozen years or more a female ape belonging to the family of Cercopithecus, a genuine *virgo intacta*, which spent its days in a cage. The menstrual flow appeared regularly every month, lasted three to four days and was preceded and followed by a copious, colorless vaginal discharge. After the menstruation in February, 1899, the animal, for some unknown reason, played with its breast, which, after a few days, produced a few drops of colostrum. These, under the combined effect of incessant massage and prolonged suctions, changed into an abundant supply of milk. The same procedure caused an identical result of the left mamma. This paradoxical lactation lasted for nine months, and, as the result of persistent manipulation on the part of the animal, reappeared after two months, and was still extant when Noël's report went to press fourteen months later. In summer the secretion was less than in cold weather. As long as the lactation was profuse the menstruation disappeared, only to occur regularly whenever the mammary secretion ceased or markedly decreased.

Instances of this curious secretion in the adult human male and in male animals have appeared sporadically in literature, but are not within the scope of this paper. It is possible that such cases belong to the class of pseudohermaphrodites. The reports are altogether too vague to permit of critical analysis.

The physiologic, that is, the most common, and at the same time the strongest, stimulus for the function of the mammary gland is pregnancy. As a rule, the formation of colostrum begins in the second month of gestation, the transformation into milk on the second or third day of the puerperium. The period of lactation lasts, on an average, one year, but ranges, in individual cases, within wide limits. It is, however, permissible to speak again of "abnormal mammary secretion in non-pregnant women" if the duration of lactation exceeds two years, when the organism of the child obviously has become independent of the milk supply from the mother.

Yet it is an altogether common occurrence to see lactation intentionally prolonged for an indefinite period of time. In the ethnographic work by Ploss[16] we find that this unnatural custom is distributed among all races and nations, all over the globe. I myself,[17] in my travels in Japan and Siam, have repeatedly seen a boy of 6 or 7 years interrupt his play or put the palm-leaf cigarette behind the ear in order to return to his mother's breast and take a sip of milk. In the poor and ignorant peasantry of middle Europe this custom is due partly to economical reasons, partly to the question of personal convenience. The most potent factor, however, very likely lies in the common popular error that lactation, and through it, amenorrhea prevents further conception.

There are several cases on record of extraordinary prolongation of lactation. Kamneff[18] reports a case of thirty-two years' duration, and Cazeau[19] describes another case in which an abundance of milk was secreted for forty-seven years. Even in the absence of an artificial stimulation by persistent suckling lactation may be abnormally prolonged. In the instance published by Arnheim[20] the patient, a woman of 26 years, was confined four years ago. Since then there has been a profuse mammary secretion which has resisted all known methods of treatment.

While, in the categories thus far discussed, we have encountered some sort of stimulus which could be held responsible for the abnormal mammary secretion, there is no such causation apparent in that strange complex of symptoms which make up the clinical picture of false pregnancy. Leaving aside the cases of purposely feigned pregnancy and postponing, for the moment, the discussion of pseudocyesis near the menopause, we know of this false or nervous pregnancy practically nothing but that either the wish or the fear is father to the thought. Yet such instances of secretion of colostrum, or even milk, from the breasts in false pregnancy are familiar to most obstetricans. A good illustration is the following case:

CASE 1.—*Patient.*—Mrs. T. A., 27 years old, married three years, had five miscarriages, the last of which occurred about the middle of February, 1904. (Syphilis?) She was extremely anxious to have children.

June 1, 1904: The patient noticed that her abdomen was growing larger. There was engorgement of the breasts containing milky fluid; regular morning sickness, at times vomiting; "fetal movements" for last six months. The patient believed herself pregnant. On examination a slight amount of colostrum was expressed from each mamma. The enlargement of the abdomen was found to be due to fat. The uterus was of normal size and consistency, in movable retroversion. There were positively no signs of pregnancy.

July 30, 1904: The patient had normal menstruations in June and July. The breasts still contained colostrum.

Oct. 15, 1904: The patient became pregnant in September, but passed out of my hands. I ascertained later that she again miscarried, was curetted, and died from septic infection.

A class by itself is formed by women in, or near, the climacterium with abnormal secretion from the breast. Tilt[21] found mammary irritation and swelling with the secretion of milky or glutinous fluid in 14 out of 500 women at menopause.

Billroth,[22] who assumed a very critical attitude toward most of the reports in literature, cited the case of the 59-year-old wife of a working man, who nursed, without a coincident delivery, her 9-months-old grandchild. At the beginning the child was nursed by its mother, who was, however, compelled to wean it. The child became so restless that the old woman, who had not menstruated for ten years, placed it to her own breasts to quiet it. Suddenly she felt piercing pains in both breasts, and on examination she found some drops of a milk-like fluid. The child was then zealously put to the breasts with the result of producing such a free flow of milk that it was exclusively fed by the grandmother. Another case in question mentioned by Billroth is that of a woman of 82 years. Rashid-ud-Din[23] records an old woman of 60 acting as wet-nurse to her grandchild. Incredible as these cases, which can easily be multiplied, seem, they are undoubtedly true. I, too, have seen several such instances in Siam.[17]

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[15] Quoted from Edgar: Practice of Obstetrics, 1903, p. 484.

[16] Ploss and Bartels: Das Weib. in der Natur- und Völkerkunde, ed. 6, Leipsic, 1899.

[17] Medizinische Reise Erinnerungen aus Siam, Deutsche med. Wchnschr., 1899, xxv, No. 9.

[18] Vrach, 1889, xx, p. 430.

[19] Quoted from Noel: Echo méd. d. Cévennes, 1901, p. 207.

[20] Tr. Med. Soc., Hamburg, Deutsch. mediz. Wchnschr., 1908, p. 445.

[21] Quoted from Johnston: Am. Jour. Obstet., xxi, 1888, 839.

[22] *Diseases of the Female Mammary Glands*, Cycl. Obstet. and Gynec., 1887, ix, 44.

It seems a bewildering task to search for the cause of this phenomenon. According to Bloodgood,[24] there should be in the senile breast an atrophy of both parenchyma and stroma. The atrophy of the parenchyma is usually more marked up to its almost complete disappearance. The stroma never completely disappears. As the breast tissue disappears it is replaced by fat. It is due to this fact that, notwithstanding advancing age, in some well-nourished women, the breasts do not perceptibly decrease in size. In approximately 25 per cent. of the cases, however, a parenchymatous hypertrophy takes place in the senile breast. This senile parenchymatous hypertrophy may be divided into three stages: the adenomatous, ectasia and the adenocystic. As a rule, all three are present in different degrees. In the adenomatous stage one finds in the affected area more ducts and acini than in normal breast tissue. The stage of ectasia, which interests us most for the subject in hand, shows little dilated cavities filled with fluid or semifluid contents composed of débris of degenerated cells.

The appearance of "milk" in the senile breast may be due, in some cases, to this parenchymatous hypertrophy of Bloodgood. In others, as will be seen in the following cases, such a causation is certainly lacking.

CASE 2.—*Patient.*—Mrs. I. C., aged 39, mother of two children of 19 and 17, respectively; had no conception since. Menstruation was always regular, but scant; the last was three weeks before examination. The patient believed that she was pregnant because she "felt life," although the menses had never ceased. Her abdomen was growing larger and her breasts contained "milk." She was nauseated at times.

Examination.—Jan. 10, 1908. The patient looked much older than her actual age. There was a copious amount of colostrum in both mammæ, which were very flaccid. The vulva was senile; the uterus large and hard, in normal position; the adnexa normal. The patient was not pregnant.

CASE 3.—*Patient.*—Mrs. M. S., aged 42, had one confinement twelve years previous to examination; was in menopause for six months. She wanted to know whether she was pregnant.

Examination.—June 12, 1907. Mammæ were very flaccid; contained colostrum. The uterus was of hard consistency, in movable retroversion; the adnexa normal. The patient was not pregnant.

CASE 4.—*Patient.*—Mrs. C. P., aged 50, had a number of early miscarriages between the ages of 20 and 30 years. She married the second time eight and one-half months previous to time of examination. Menstruations were more infrequent of late, the last one six weeks previously. She stated that, since her second miscarriage, her abdomen was constantly growing larger, and that the configuration corresponded to "that of the last month of pregnancy." She felt persistent "fetal movements."

Examination.—Dec. 31, 1907. The patient was of medium size, rather stout, with an enormous deposit of fat in the abdominal walls. There were no signs of pregnancy or tumefaction of genital organs. Both breasts were large. The left mamma contained some fluid. The patient was informed of my diagnosis of obesity and climacterium.

Feb. 7, 1908: The patient had a slight menstruation at the end of January. She was still convinced that her confinement would take place within a few weeks. She asserted that the nipples of both breasts were more pigmented than before. "Fetal movements" were still pronounced. Examination was again negative as to the question of pregnancy. A gold-brown clear fluid was easily squeezed out of the left breast and presented, microscopically, the typical appearance of colostrum.

April 10, 1908: The patient informed me that she had taken up Christian Science and that the abdomen had considerably decreased in size; the fetal motions had ceased, and the milk had disappeared.

It is interesting to notice that the inevitable outcome in this case is erroneously attributed to the false doctrine of Eddyism. The patient completely overlooked the fact that I predicted the cessation of her symptoms three months previously and for this purpose recommended a change of her sedentary habits.

The foregoing are cases in which neither the desire for nor the fear of offspring, but merely the appearance of lacteal fluid gave rise to the thought of a belated pregnancy. The causal stimulus of this abnormal secretion, however, is entirely unknown. Yet there can be no doubt that only an appropriate stimulus is needed to bring about mammary activity in any case. This is conclusively shown in the cases in which, after normal delivery, lactation ceased, but was revived by persistent and energetic suctions. The interval of mammary inactivity is sometimes surprisingly long. Noël[14] cites several instances in which, even after a total absence of mammary secretion for four months, the child could be fully nourished by the breast.

An "appropriate" stimulus is not necessarily a mechanical one, that is, suction or traction.

The following case seems to indicate the possibility of a psychic influence:

CASE 5.—*Patient.*—Mrs. A. N., aged 40, was under my observation for eight years. She has a decidedly emotional temperament. During the last year she had frequent metrorrhagias for which she was curetted (in my absence) and took styptic medicines internally without lasting benefit. I saw her May 26, 1908, when she had been bleeding copiously for the last fifty-one days. The absence of any tangible cause, on repeated examinations and the excessive nervousness of the patient, called my attention to domestic difficulties of a serious nature under which she had labored for many months past. Three hypodermic injections of styptics, with administration of bromids, gave complete relief in twenty-four hours.

Since then these hemorrhages have returned once or twice immediately following a psychic disturbance, but were speedily checked on the patient's taking bromids. During these periods of excitement I also found that the breasts, which were not enlarged, contained a small amount of grayish fluid. On one of these occasions the patient exclaimed: "Whenever I hear a baby crying, I feel as though I could nurse it!"

Levene and Paderi[25] have observed that the subcutaneous injection of phloridzin, in some cases, is followed by an increased activity of the mammary glands. Misrachi[26] succeeded, three weeks after cessation of secretion, in producing a continuous production of milk by faradization of the mammæ. Dassier[27] and Biedert[28] noticed in climacteric women secretion of milk following a mastitis. These cases lead to the very interesting question of activity of the breast due to pathologic conditions. Tumors of the breast itself may be left entirely out of consideration. We are here mainly concerned with affections within the genital sphere.

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[23] Indian Med. Rec., 1896, x, 114.

[24] Senile Parenchymatous Hypertrophy of Female Breast, Surg., Gynec. and Obstet., 1906, p. 721.

[25] Levene and Paderi, quoted from Caspar: Handbuch der Cystoskopie, 1905, p. 244.

[26] Quoted from Knapp: von Winckel's Handbuch für Geburtshilfe, 1904, ii, part 1, p. 164.

[27] Séance pub Soc. roy. de méd., chir. et pharm. de Toulouse, 1837, p. 25.

[28] Quoted from Knapp: von Winckel's Handbuch, für Geburtshilfe, 1904, ii, part 1.

P. Mueller[29] has observed, in the University Clinic at Berne, fourteen cases of mammary secretion in sterile women, "in most of whom there coexisted some sort of a gynecologic disease." Of these, fibroids of the uterus are usually mentioned in connection with the reflex phenomenon in the breast. Thus, Säxinger[30] is given credit for observations of this kind. H. W. Freund[31] found in 25 out of 44 cases of fibroids colostrum in the mammæ. He believes that the alteration of the blood by the uterine tumor causes the mammary symptom. Because he never succeeded in producing secretion from the breasts by irritating, for weeks, the uterine cavity with strong galvanic currents, he excludes reflex through the nervous system.

Reports on this particular subject are exceedingly meager. It seems to me that the same cases are cited over and over again. Considering the enormous frequency of uterine fibroids, one would naturally expect the reflex symptom more often. I have in vain paid attention to it for a number of years, and so acute an observer as Billroth[22] states plainly that "in a tolerably large number of such tumors . . . ," he has "never witnessed such coincidence with abnormal milk-secretion."

Johnston,[32] reporting two cases of mammary secretion in false pregnancy, asserts that the occurrence of this abnormal activity with other disturbances usually associated with pregnancy began in one case at the same time that a hitherto normally situated uterus became retroflexed and was dependent thereon, for with the restoration of the uterus to its normal position, this condition became less marked and finally disappeared. In the case of Cramer[33] a woman of 33 had had a miscarriage nine years previously. Following this she suffered from an ascending gonorrhea, which resulted in fixed retroversion and sterility. At every menstruation thereafter there was an abundant lacteal secretion from the breast, for which, according to Cramer, the chronic inflammatory irritation of the uterus was perhaps responsible. Cramer operated on a woman of 40, eight years after her last confinement, for prolapse of the uterus with primary healing. The operation was followed by enlargement and copious secretion of the breasts.

Similar observations have been made in cases of obesity and in inflammatory diseases of the tubes and ovaries (Foges[34]).

Case 6.—*Patient.*—Mrs. E. S., aged 28, has a child a year old which she did not nurse. She had always been fleshy, but had grown very stout since the confinement. Her menses were regular, lasting from one-half to one and a half days, very scant. The last menstruation was two weeks before the examination. She had been nauseated since March. Her breasts were swollen, and for this reason she believed herself pregnant.

Examination.—June 19, 1908: The patient was an enormously fat woman with a gigantic abdomen. There was colostrum in both mammæ, but there were positively no signs of pregnancy. The diagnosis was obesity.

It would be desirable to publish, in future, every case of this kind and to subject it to scrutinizing analysis in order either to establish a mere coincidence or to throw light on a hitherto obscure chapter of the physiology of the genital organs.

The perplexity of our problem becomes even more apparent if we consider the influence of castration on the mammary glands. That the removal of both ovaries does not interfere with the secretion of milk in pregnant or puerperal women is conclusively shown by the numerous cases in which double ovariotomy was done before or after labor without impairment of lactation. One illustration may suffice.

Cramer[33] performed Cesarean section and Porro's operation on a woman of 36 for osteomalacia. This patient nursed her baby for eleven months. These facts are well known to animal breeders and, indeed, have been of practical importance to them. Lejoux, Venuta[35] and others find that castrated cows produce more milk than non-castrated ones. Oceanu and Babes[36] concluded from their experiments that double ovariotomy in goats not only prolongs, but also improves the secretion of milk; eliminating, for instance, the characteristic taste of the goat's milk at once. While in these cases, castration did not impair an already established secretion, there are, moreover, unimpeachable instances in which this operation actually produced lactation. Alterthum[37] found colostrum in the mammæ in 5 out of 18 cases after castration. Landau[10] has published a striking case. One and a half years after a double ovariotomy he found a free secretion of white milk for several months in a young woman of 26 who had never conceived. Gruenbaum[38] and Alsberg,[39] both from Landau's clinic, have added fifteen cases in which the removal of both ovaries was followed by mammary secretion which was either colostrum or milk. The secretion occurred both in multiparous and nulliparous women, independently of the age of the patients, provided they were still within the age of sexual activity. In some of these cases the ovaries were quite normal, in others totally diseased. This mammary secretion, then, was caused by the complete ablation of both ovaries. On the other hand, in those cases in which only the uterus or only one ovary was removed, or in which a remnant only of one ovary had been left behind, no secretion occurred. In Case 20 of Gruenbaum's statistics, the ovaries, save a small remnant on one side, had been removed in 1904. The patient had regular menstruations for three years. She was readmitted to the hospital because the ovarian remnant had degenerated into a cystic tumor. She was operated on for the second time in 1907, and the tumor radically removed. Eighteen days later a profuse secretion of colostrum occurred. The beginnning of the secretion, as a rule, was observed in the third week after operation, or later. It ceased, in some cases, after a few days or weeks; in others, it lasted as late as four months. An observation of my own may here be added:

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[29] Quoted from Ploss and Bartels: Das Weib in der Natur- und Völkerkunde, ed. 6, Leipsic, 1899.

[30] Cited by Stumpf: von Winckel's Handbuch für Geburtshilfe, iii, part 3, p. 540.

[31] Die Beziehungen der Schilddrüse und Brustdrüse, Deutsch. Ztschr. f. Chir., 1891, xxxi, 446.

[32] Am. Jour. Obstet., 1888, xxi, 830.

[33] Einige Beobachtungen über die Funktion der weiblichen Brustdrüse, Monatschr. f. Gynäk. u. Geburtsh., 1907, xxvi, 367.

[34] Beitrag zu der Beziehungen von Mamma und Genitale, Wien. klin. Wchnschr., Jan. 10, 1908.

[35] Quoted from Halban: Arch. f. Gynäk., 1905.

[36] Compt. rend. Acad. d. sci., Paris; München. med. Wchnschr., Feb. 21, 1905.

[37] Folgezustaende nach Kastration, Beitr. z. Geburtsh. u. Gynäk., 1899, ii, 13.

[38] Gruenbaum: Milchsekretion nach Kastration, Deutsch. med. Wchnschr., 1907, p. 1038.

[39] Alsberg: Brustdrüse und Eierstock, Zentralbl. f. Gynäk., 1907, p. 1581.

Case 7.—*Patient.*—Mrs. A. H., aged 19, had had one confinement two years previous to operation mentioned below. She nursed her baby for four months. She suffered for eight months before the operation with intense pain in lower abdomen.

Operation.—Jan. 13, 1908: Abdominal panhysterectomy was performed for double pyosalpinx, abscess of left ovary, cyst of left parovarium, and an extensive pelveoperitonitis adhæsiva.

Postoperative History.—Convalescence was satisfactory, save a superficial suppuration of the incision.

Feb. 2, 1908: As the symptoms of artificial menopause (hot flashes, etc.) were pronounced, ovarian extract, 5 grains, t. i. d., was ordered.

Feb. 7, 1908: There was copious secretion of a grayish fluid from both breasts which heretofore had been absolutely dry. Microscopic examination revealed typical colostrum.

Feb. 25, 1908: The patient was discharged in good health. Mammary secretion was still present.

Epicrisis.—The interval of five days between the first administration of ovarian extract and the appearance of colostrum in the breasts was too short to suggest any influence from the organotherapy. For this reason, the case must be classed with those of abnormal mammary secretion following castration.

Atrophy of the ovaries may produce the same phenomenon. Foges[34] observed several patients who, after parturition, had amenorrhea for a number of years, yet exhibited an abundant secretion of milk in spite of the fact that they had never nursed their children. The following observation of my own belongs to this category:

Case 8.—*Patient.*—Mrs. H. L., 25 years old, had been married for three years without conceiving. Her menses were very irregular, about once in three months, and very scanty.

Examination.—The patient's breasts were small, more like those of a girl of 14. The vagina was very short, and the vaginal vaults were unusually shallow. The uterus measured only 6 cm. Both ovaries were apparently normal to the touch. In every other respect the patient seemed to be normally developed.

June 15, 1908: The patient asserted that whenever menstruation would be due without actually occurring, the breasts would feel sore and contain fluid. This being a menstrual date, I found a large quantity of colostrum in both mammæ.

September 3: The patient had, after an amenorrhea of two months, just one drop of bloody discharge on each day for four consecutive days, about a week ago. On slight pressure a thin fluid squirted out of both breasts.

Halban[7] explains all these cases by the theory that the ovary, by its internal secretion, brings about the development of the mamma into an organ capable of function. As long as the glandular substance of the mamma develops, secretion of milk does not occur. When the growth of the mammary gland ceases, retrogressive changes set in which manifest themselves by production of milk. The growth of the mamma is controlled by the ovary. Without the ovary there is no further growth, and the mamma undergoes involution. Thus, if the ovaries are removed or become atrophic, involution of the mamma is no longer held in check, and lactation may ensue. In pregnancy, when the ovary is supposed to remain inactive, the function of the ovary is taken up by the placenta. The latter, too, has an internal secretion. The substances originating in the placenta have the same effect on the mamma, namely, that of preventing retrogressive changes. After birth, the placenta no longer exercises its inhibitory influence, and milk appears. In this manner the occurrence of lacteal secretion in the puerperium is explained as well as that after castration and in the climacterium.

This explanation would be plausible enough were it not for the following observation of Cramer.[40] In a woman of 21, atrophy of both ovaries was supposed to exist because of amenorrhea since her only confinement two years previously. Transplantation of two healthy ovaries from another woman was performed. A few weeks after the operation there was a secretion from both mammæ, which hitherto had been absolutely dry.

Abnormal outward appearance of milk may be mentioned, though it is in but loose connection with our subject. Blue milk owes its color to the development of the *Bacillus pyocyaneus.* Red milk is due to the presence of the *Micrococcus prodigiosus.* Yellow milk is also produced by the growth of a bacillus. Sheild,[41] from whom these notes are taken, also speaks of a case of green milk, the color of which was not due to bile pigment, but very likely to an aromatic body produced by bacteria.

From these cases those instances must be distinguished in which blood was secreted by the mamma. The presence of malignant tumors of the breast should first be excluded. In a few, though not well authenticated cases, vicarious menstruation occurred from the mamma. Rarely hysteria produces this remarkable phenomenon.

Skutsch[42] recently demonstrated a case of this sort. Another case with all symptoms of pronounced hysteria was published by Chipault,[43] who also gives the scanty literature on the subject. The true hysteria breast is characterized mainly by a vasomotor edema which causes ecchymoses and hemorrhage. It is quite important to recognize the real hysteric nature of these hemorrhages in order to avoid operations.

The question of the primary cause of mammary activity has been repeatedly touched on in the foregoing. The clinicians have been always inclined to assume an influence of the nervous system on lacteal secretion, and they have based their views mainly on the observation that the secretion of milk is sometimes greatly altered by such emotions as passion, grief, or mental depressions. The text-books on physiology arrive at similar conclusions, principally from analogy between the mammæ and other glands, the secretion of which is subject to nerve stimuli.

Kurdinowski[44] assumes that the pregnant uterus presses on neighboring organs and nerves, producing a constant mechanical irritation which is transmitted to the mamma. The same effect may occur if the uterus is enlarged by fibroids or by a combination of metritis and retroflexion.

The exact experimental proof, however, is still lacking. It is true that Roehrig,[45] Laffont and others, from their researches, have asserted that irritation of the peripheral nerves of the mammæ actually increases the activity of these glands, but their results have been challenged and disproved by the majority of observers. Ribbert's[46] experiment is particularly noteworthy. Ribbert extirpated the mamma in a young guinea-pig and transplanted it beneath the skin of the ear. When the animal became pregnant the transplanted gland developed normally and afterward produced milk. A similar result was obtained by Basch.[47] In a bitch in which the left spermatic nerve and the celiac plexus had been resected previously, thus depriving the lowermost mammary gland of both the peripheral and sympathetic nervous impulses, the gland was transplanted on the back. After some time pregnancy occurred. The gland became hypermic and well-developed. After delivery there was absolutely no difference in the milk secretion of the transplanted gland and that of the other mammæ of the animal.

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[40] Transplantation menschlicher Ovarien, München. med. Wchnschr., 1906, liii, 1906.

[41] A Clinical Treatise on Diseases of the Breast, London, 1898.

[42] Tr. Obst. Soc., Leipsic; Zentralbl. f. Gynäk., Jan. 11, 1908.

[43] Un cas d'hemorrhagie hystérique du sein, Presse méd., Aug. 15, 1896.

[44] Ueber die reflektorische Wechselbeziehung, Arch. f. Gynäk., 1907, lxxxi, 340.

[45] Quoted from Basch: Jahrb. f. Kinderh., 1906, lxiv, 795.

[46] Ribbert: Ueber Transplantationen von Ovarium, Hoden und Mamma, Arch. f. Entwickingsmech. d. Organ., 1898, xii, 688.

It must, then, be accepted as an established fact that the specific function of the mammary gland is independent of the nervous system.

Starling[5] injected extracts made from different parts of the immature rabbit fetuses into virgin rabbits and thereby produced well-marked hypertrophy of the mammary glands similar to that observed during the earlier stages of pregnancy. He, therefore, concludes that "the growth of the mammary glands during pregnancy is due to the assimilatory or inhibitory effects of a specific chemical substance produced in the body of the fetus and carried thence through the placenta by the fetal and maternal circulations. The removal of the inhibitory stimulus at the end of pregnancy determines the spontaneous break-down of the built-up tissues, i. e., activity which in these cells is expressed by the formation of milk."

The ingenious and painstaking researches of Halban[5, 6] have already been referred to. According to Halban, the etiology of mammary function has nothing to do with the fetus, but this function is due to the internal secretion of the ovary; in pregnancy, the function of the ovary is temporarily assumed by internal secretion of the placenta. This theory of Halban's throws much light on a problem of science which hitherto has been very obscure, despite the enormous number of investigations which have preceded his. H. de Rothschild[18] has collected up to 1899 not less than 8,375 publications on the subject.

It is the object of this paper to call attention to the fact that further accurate observations are needed to settle certain mooted questions. We have seen, in the foregoing, that lacteal secretion does not only occur in pregnancy and puerperium but that it also may appear in the newborn, in the growing child, in the adult virgin and in the old woman. It may be prolonged indefinitely after childbirth, and may be associated with certain pathologic conditions within the genital sphere. The last named phenomenon, in particular, demands earnest consideration, and the hope is expressed that a discussion on this subject will bring forth experience gained in this country. Aside from the intense scientific interest in the etiology of lacteal secretion, there is also considerable practical importance attached to abnormal activity of the mammary glands, and a thorough knowledge of atypical function of these organs is indispensable to the expert in medicolegal practice.

Linmar Building.

DISCUSSION.

Dr. W. O. Henry, Omaha: *I saw a case the features of which emphasize what Dr. Gellhorn has said. The case was that of a woman 36 years old, the mother of one child 12 years old. She had some inflammatory trouble and both her ovaries and tubes were removed. Shortly thereafter she had a regular monthly formation of milk in the breasts lasting for from four to five days. This continued for over a year and then ceased.*

Dr. Bernard Cohen, Buffalo: *A few years ago I saw another case similar to the one reported. The case was that of a girl of 17 who had two supernumerary breasts, one over the right iliac region and the other at the lowest right rib. At each menstrual period there would be secreted a fluid resembling cholesterin which would last four or five days and then disappear. I observed this case for about two years and then lost sight of the patient.*

Dr. Joseph B. De Lee, Chicago: *There is no doubt of the diagnostic value of the presence of milk in the breasts in pregnancy. All the text-books note that as one of the diagnostic signs as well as the associated mammary changes, particularly the expression of colostrum from the nipple. Very early in my own experience I found that sign so fallacious that I began to surround it with a great many qualifications. Surrounded by these restricting qualifications the sign still has a certain value in the differential diagnosis between pregnancy and other abdominal conditions. Absence of the mammary changes, however, is of more diagnostic value than the presence of the sign. It is reasonable to suppose, in a contested case, if the breasts show no changes after four or five months' observation that pregnancy does not exist. The presence of a small amount of colostrum can be demonstrated in a breast that shows no other changes and these other changes are more diagnostic than the colostrum. These changes are enlargement of the breast, increase of glandular tissue, puffiness of the areola, and the enlargement of the so-called tubercles of Montgomery.*

Dr. Frank Hinchey, St. Louis: *The subject is of great interest from the medicolegal standpoint, but it has impressed me particularly from the point of the etiology of the milk secretion and the theory of Halban. His theory is interesting but it does not cover all the points in abnormal secretion. The abnormal secretion found in the male and female shortly after birth might, as he said, be due to some remains in the blood of the fetus of a placental or ovarian secretion circulating in the mother's blood, but it does not explain the presence of milk in the mature male breast. It is known that good biologists have reported cases in unimpregnated females and in male animals in which there could have been no placental stimulation on the one hand and no ovarian secretion on the other. In the male it might be supposed that the condition was due to hermaphrodism, or partial hermaphrodism, but investigators have eliminated that factor. Neither does Halban's theory explain the condition in animals that have no placenta, the mammals which lay eggs having a large yolk. These eggs are laid as the eggs of birds are laid and there is no placenta, therefore no placental stimulation, yet in them we have a milk secreted from the walls of the pouch, so that the theory fails to explain these interesting cases. I do not know that we can eliminate the question of stimulation from the nervous system, because in the case of transplanted breasts we no doubt soon have a connection with the nervous system, just as we have when skin is grafted. The nervous attachment becomes apparent in the grafted skin after a short time, by the production of sweating under the influence of nervous impulses, just as in normal skin elsewhere.*

Dr. George Gellhorn, St. Louis: *I was so anxious to keep within the time allotted that I omitted to mention the curious phenomenon of the secretion of blood from the mammæ. Such instances have been observed by German and French investigators. The hysterical nature of these hemorrhages from the breast is of great practical importance because we must in these cases avoid operation.*

Tuberculosis of the Testicle.—Delaup, in the *New Orleans Medical and Surgical Journal*, states that tuberculosis, whether apparently localized in the testicle or elsewhere in the body, is always a disseminated affection which can not be amputated. His choice of operation, therefore, is epididymectomy, unless the disease has progressed too far and the testicles can not be saved.

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47. Basch: Beitrag zur Physiologie der Milchdrüsen, Jahrb. f. Kinderheilk., 1906, lxi, p. 795.

48. Rothschild, quoted from Halban: Arch. f. Gynäk., 1905, lxxv, 358.

ABLATIO PLACENTÆ.

PREMATURE DETACHMENT OF THE NORMALLY SITUATED PLACENTA.*

RUDOLPH WIESER HOLMES.
Associate Professor of Obstetrics and Gynecology, Rush Medical College.
CHICAGO.

SYNONYMS.

Accidental Hemorrhage (Rigby, 1776), *Premature Detachment of the Normally Situated Placenta*, Ablatio Placentæ—Placenta Ablata (Holmes, 1901).

DEFINITION.

Ablatio placentæ is the separation, partial or complete, of the placenta from the upper uterine segment during pregnancy, or during labor before the completion of the second stage, due to some pathologic state of the uteroplacental union or violence done the organism.

FREQUENCY.

In spite of the close statistical study of obstetric complications in general, the subject of ablatio placentæ has been greatly neglected or ignored by obstetricians. In some clinics the condition has not been recognized; in others it is held to be of such rare occurrence that an example has not been observed in an enormous clinical experience; while in others it is not of very unusual occurrence. The wide disparity found in studying different hospital reports suggests that the discrepancies are due to faulty interpretation of symptoms or incorrect observation. In investigating this subject one can but be impressed with the enormous mass of literature on placenta prævia, and the relative paucity of material on ablatio placentæ. A considerable experience with antepartum hemorrhages has clearly convinced me of the fact that the latter is almost always mistaken for the former, especially if the placenta dips only slightly below the retraction ring.

Spiegelberg, one of the most diligent observers of obstetric anomalies, in his text-book describes placentæ which demonstrate clearly the presence of old blood clots on the maternal surface: sometimes these clots are firm dark particles of blood, varying in size from that of a small coin up to that of a hen's egg or even larger; again, the coagula may have been so old that the hemoglobin has been entirely absorbed, leaving a putty-like substance to denote the site of a former hemorrhage. Oftentimes, these clots are buried in a depression on the maternal surface of the placenta. In this connection, Brodhead was able to find 7 instances of such pathologic hemorrhage in 1,000 histories. These cases are merely of interest to the pathologist. On the other hand, the bleeding may be of such import that the woman and her child are placed in the sorest jeopardy. It is to such cases that I shall devote my description.

The Rotunda Hospital of Dublin in seven years had 74 cases of accidental hemorrhage (ablatio), with a ratio of frequency of 1 in 121.58. During the same period the staff observed 55 cases of placenta prævia—a ratio of 1 to 163.58. The Rotunda is the only clinic which meets ablatio more frequently than placenta prævia.

Hofmeier, of Würzburg, in Winckel's "*Handbuch der Geburtshülfe*," maintains that ablatio is incomparably less frequent than prævia, and quotes Goodell to the effect that he could find only 106 examples in the literature, and that Brauns in 1893 could only get 51 additional cases. As Hofmeier, so nearly all writers, misled by the title of Goodell's paper, have blindly accepted the statement of Goodell of the excessive rarity, he being led astray by the nomenclature of Baudelocque, who introduced the name of "concealed accidental hemorrhage." Yet, of Goodell's 106 cases 27, or approximately 27 per cent. had external bleeding in the course of the disease. In my previous contribution on this subject I was able to collect 73 examples of concealed hemorrhage, which, added to the 78 of Goodell, makes a total of 151 of the absolutely concealed type. As I see it, absolutely concealed hemorrhage is exceedingly rare, but the patent examples are not so infrequent. The combination of the two types, absolutely and relatively concealed hemorrhages, probably occurs at least half as frequently as placenta prævia.

ETIOLOGY.

The causes of ablatio naturally fall into two general classes—the predisposing and the direct: The chief predisposing factors are age, multiparity, advance of pregnancy, and the physiologic structure of the serotinal portion of the placenta, and its site.

In my previous paper[1] I showed that in the three decades of the child-bearing period—that is, in the ages, 16 to 25, 26 to 35, 36 to 45—ablatio occurred 17, 53.7 and 29.8 per cent., respectively; the fact that only 10 per cent. of labors occur in the last decade is strongly suggestive. It was found that of the 156 women whose data were given that only 30 were primiparous, or 19.2 per cent.; as primiparous labors comprise 25 to 33 per cent. of all deliveries the relative immunity is evident. In 157 patients the length of gestation was as follows: 6 in the fifth month, 4 in the sixth, 29 in the seventh, 62 in the eighth, 52 in the ninth or at term. Read has shown that labor comes on at term in placenta prævia in only 19 per cent., while in ablatio, according to my figures, labor occurs at term in 33.1 per cent., or according to Goodell in 50.5 per cent. A great part of this may be dependent on the fact that with the advance of pregnancy, *pari passu*, the conditions increase which make the complication more severe, therefore, more easily diagnosticable. Jacquemier contended that the immense ramification of the uterine sinuses, and the relation to them of the small caliber of the ovarian and uterine veins predisposed to blood stasis: conditions which produced engorgements or congestions would tend to disrupt the delicate uteroplacental union. Cazeaux believed that the double placental circulation was operative: Gendrin thought that uterine contractions could cause the separation with the resultant hemorrhage. It is of interest that Hofmeier lends credence to this obsolete idea. Saenger very properly has disputed the contention of Gendrin.

The direct causes are of greater import and of more scientific worth. There may be no question but that ablatio may be directly due to violence applied to the abdomen, or to other parts of the body. No arbitrary rule may be laid down as to the severity of the trauma necessary to disrupt the uteroplacental union. We all know of women who have fallen down stairs, have been violently kicked or hit in the abdomen without any uterine reaction whatsoever: per contra, women have had very trivial injuries which have determined premature labor or resulted in ablatio. I am firmly convinced that, barring certain severe contusions, especially of the abdomen, the usual accident attributed as the cause is merely contributory and subordinate to the pathologic uterine disease. J. Ramsbotham, long ago, put this clearly, and showed his prophetic mind by enunciating this: "The attack rarely follows the immediate application of a supposed injury; a lapse of some time usually intervenes."

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] Am. Jour. Obstet., 1901, xliv, No. 6.

PATHOLOGIC CAUSES.

It has been already shown that ablatio is peculiarly a complication of multiparous women of the second and third decade of the child-bearing period, which undeniably is due to the wide prevalence of metritis and endometritis. Just as such inflammatory processes bear a causal relation to metrorrhagia and menorrhagia, so the decidual endometritis which is a direct sequence often *manifests itself in antepartum* hemorrhages of the decidua vera and serotina. An old specific endometritis may be the foundation of the apoplexy of the pregnant uterus; a puerperal endometritis of one lying-in period or of a criminal abortion may account for the ablatio in a subsequent pregnancy. So the gonococcus, streptococcus and staphylococcus will often be the direct causal factor. Reinicke and Pick have found, as have others, sclerosis of the uterine arteries in the non-pregnant; if pregnancy should supervene in such sclerotic subjects, it is logical to believe that the atheromatous vessels may be the determining cause of a retroplacental apoplexy. Winter added much to our knowledge of the etiology of ablatio when he depicted the intimate relation between decidual and placental inflammations concomitant to renal inflammations. Hennig and Weiss corroborated this. One of my cases had such a complexus of pathologic findings. Rousseau-Dumarcet in 14 cases of ablatio had 11 with renal changes; likewise, in the Clinique Baudelocque the same combination was found in 24 of 31 cases. Further in my statistical study 20 reports showed some form of nephritis.

When we directly consider the placenta we find that it also is subject to inflammations which have an important bearing on the subject. Since the day of Rokitansky the profession has known of placentitis: he found placentæ with inflammatory infarcts, both with and without placentary hemorrhages. We all know how common is the fibrosis, the calcareous degeneration, and the fatty degeneration of the placenta. Kaltenbach and Veit both declare that all placentæ must have a serotinal inflammation to permit of a premature separation: Fehling and Schroeder declare that we must go further before we may substantiate the assertion that there is a difference between infarcts or inflammations accompanying albuminuria, and those in which the latter does not exist.

PATHOLOGIC ANATOMY—DYNAMICS.

Goodell attributed the blood retention in cases of absolutely concealed cases of ablatio to four causes:

1. When the placenta is centrally detached and the blood is restrained by a firm adhesion of the placental border.
2. When the adhesion of the membranes is such that blood accumulates between the uterine wall and the chorion.
3. When the membranes rupture near the placenta, and the effused blood commingles with the liquor amnii (there is no record of such a form)
4. When the presenting part so plugs the lower segment that blood may not escape.

I have added to this list instances of conglutinatio *orificii externi*. When the blood has been dammed up under the placenta for some time a distinct depression will frequently be found on the maternal placental surface; this depression may occupy a very considerable area of such surface.

The condition of ablatio closely resembles the mechanics of the typical abortion; this phenomenon is so strongly suggestive that we might well say that ablatio is an abortion in the latter months of pregnancy. We appreciate the fact that the usual abortion is ushered in by hemorrhage within the decidua, or between it and the uterine wall; the clot acts as a foreign body, stimulates contractions, and eventually the expulsion of the ovular mass. The analogy is perfect! In ablatio the retroplacental hemorrhage of slight degree determines a commensurate separation of the placenta to permit the formation of the cavity to contain the blood. Let uterine contractions occur: at once this imprisoned blood is compressed; the compression determines additional placental separation; the cavity, increased by this act, is filled by additional blood during the interval of contraction; and thus a mechanism similar to Schultze's mechanism for the third stage is inaugurated. If these small, repeated effusions of blood occur near the placental periphery, soon the border is reached, and the free blood, or more probably the serum expressed from the clot, finds its way to the os outside of the membranes.

SYMPTOMATOLOGY.

The sole pathognomic sign of ablatio is the local and systemic evidence of hemorrhage. The systemic effects of blood loss in ablatio are identical with those of other conditions associated with internal hemorrhages. If there be no external manifestation of bleeding the diagnosis may be difficult—but the diagnostician should always bear in mind that a patent bleeding is merely a corroboratory symptom of the premature detachment of the placenta. The cases which present either occult or patent bleeding offer such clear clinic pictures that one may well divide all cases into two types. Some seven years ago I was so impressed with this fact from a study of over three hundred case histories that I divided the cases into two classes, characterized by absolutely concealed and relatively concealed bleeding, respectively. That such a classification is a valid one all will admit who have studied this question from clinic experience and reading descriptions of the complication. The amount of blood which passes from the vagina is never commensurate with the amount which has left the woman's vessels. So far as my knowledge goes—and this is based on a very extensive review of the literature as already stated, and an experience of 9 clear, typical examples—every case which is characterized by external bleeding has more or less blood retained in the uterus. Further, from the brief review of the dynamics, it is clear that all cases begin with absolute concealment of the hemorrhage, and later may develop a patent hemorrhage. A cardinal principle in ablatio is that one never should gauge the jeopardy to the mother or child by the amount of blood which appears at the vulva—systemic effects alone must be considered. It is not inapt to state that the relatively concealed type is a terminal stage of the absolutely concealed form.

As a corollary to the hemorrhage are two signs of great significance. One is the distention of the uterus which may be diffuse or local. If local there will be a bulging of the uterine wall over the placental site; this is the so-called accessory tumor. As over one-half of all placentæ are on the posterior wall of the uterus, this sign may be elicited in less than half of the cases in which it is typically developed. The accessory tumor is the result of the retention of a large retroplacental hemorrhage with adhesion of the periphery of that organ. The uterus, which is equally distended, may be tense, hard like a contracting uterus, or may be flaccidly filled with retained blood. The other characteristic finding is the escape of a thin fluid from the vagina; this is the blood serum which has been expressed from the clot. This serum must not be confused with the liquor amnii, which it oftentimes closely resembles. In sharp contrast to the painless appearance of hemorrhage in prævia is the frequent precursory pain in ablatio. As in ruptured extrauterine pregnancy, so in ablatio, the first premonition of impending trouble is pain, or, perhaps, a synchronous feeling of faintness, nausea, or even entire loss of consciousness. The pain may be slight, diffused, or localized, and typically it is localized over the accessory tumor, if it be present; the pain is not infrequently of excruciating severity, with exacerbations if contractions be present.

DIAGNOSIS.

I take the stand that the difference between instances of absolutely concealed and relatively concealed hemorrhages is one of degree only, and that this difference is largely the difficulty of diagnosis. The two conditions are allied in their complexus of symptoms; there is not a sign or symptom of one which is not equally characteristic of the other, except that in the latter the bleeding is evident to the eye. Yet, if active uterine contractions set in, the obstruction which retains the blood may be swept aside, and an occult bleeding becomes evident. The graphic picture is the rather sudden onset of pain, nausea to actual emesis, possible brief tumultuous fetal movements; gradually the pain may become intense, of a stretching, bursting nature; the woman feels that her abdomen is distending; with the aggravation of symptoms unconsciousness may supervene, signs of anemia, the development of the accessory tumor, the escape of serum or of blood; the palpation of the placenta is utterly impossible by local examination. Further, with the expulsion of the child, or at any rate with the delivery of the placenta, there will be considerable amounts of dark clotted or fluid blood. Perhaps a depression which contains coagula may be found on the placenta; if the depression is absent, then, at least a portion of the placenta giving unmistakable evidence of the premature separation should be found; if some period of time has elapsed between the separation and delivery of the afterbirth, this separated area will be found darkened, of a markedly different color from the contiguous portions. The opening in the bag of waters will be at least three inches from the placental border.

Placenta prævia is diagnosticated by the palpation of the placenta, the onset of hemorrhage without premonition and without any pathologic pain; the presenting part is frequently dislodged from the inlet; if the prævia be a high lateral one a differentiation only may be made by a careful macroscopic inspection of the secundines.

In rupture of the uterus the accident is unusual before advanced labor; almost invariably there is the history of strong contractions with the sudden cessation as the rupture occurs. The presenting part recedes from the inlet, and if the rupture be extensive enough the fetus escapes into the abdominal cavity, which permits the palpation of the fetus with remarkable readiness. This is in sharp contrast to ablatio, for almost always in the latter the fetal parts are palpated with great difficulty, or palpation will be found quite impossible.

A fibroid only would be brought into consideration if the import of the accessory tumor were not recognized.

In simple vertigo or loss of consciousness from various causes there is no anemia, there is no pain; the picture of faintness is quite different from the cerebral anemia incident to a severe hemorrhage. If in doubt the hemocytometer and the hemoglobinometer will clear up all doubt.

PROGNOSIS.

In placenta prævia, other things being equal, the jeopardy to the mother and child varies directly as the degree of placental presentation; and this danger generally may be clearly predetermined. In ablatio the amount of placental separation present can not be estimated; in fact, we have no means of fixing this amount, neither have we any criteria as to how much further the separation may extend in the course of the treatment. At best, this fact is of relatively slight importance—our principal concern is the amount of blood lost, and its effect on the woman's bodily functions. This by careful observation may be fairly accurately fixed. As we have a broad field, from the pathologic examples recognized only by postpartum inspection of the placenta up to the fulminating cases terminating before aid may be secured, which have the uterus enormously distended with blood, we can not give an average mortality. In one there is no direct danger; in the other there is a death rate which exceeds any obstetric complication. In determining, therefore, the prognosis we must necessarily base our estimate solely on those cases which are of real clinic significance. In this class of patients the prognosis is dependent on the celerity with which the diagnosis is made, and the rapidity and skill used in the delivery. Goodell, in 1871, gave the mortality as 50.9 per cent. and 94.4 per cent. for mother and child, respectively. I found that there was a mortality respectively of 32.2 and 85.8 per cent. Of 39 absolutely concealed cases I found a mortality of 23 per cent; the fatality for 150 patent hemorrhages was 34.6 per cent. Goodell gave figures which undoubtedly are relatively more correct—52 and 41.3 per cent., respectively. I have had 9 severe cases of ablatio. Two patients died; one died directly after delivery, from the excessive anemia; the other, directly after the onset of the trouble, which first manifested itself by a flow of serum, had an eclamptic seizure; she reacted well from the hemorrhage, but died nine hours after the first sign from eclampsia.

TREATMENT.

I have convinced myself that he who will be aggressive in action will save most lives. When certain of the diagnosis means should be taken to deliver at once. The methods of dilatation appropriate for ablatio are curtailed by the fact that not only is the field of operation obscured by hemorrhage from the cervix, but the dislodgment of the presenting part or the rupture of the membranes may bring forth the disconcerting and obscuring flow from the uterine cavity. Therefore, two methods are open to the obstetrician, manual and instrumental, the value of the latter being questionable. It is a fortunate circumstance that the cervix is usually peculiarly softened and the os dilatable in ablatio, due to the softening effects of labor, or the anemia, or both. As the eye is an unnecessary aid to manual dilatation, this method offers distinct advantages over the other procedures for dilatation. Vaginal Cesarean section would be an ideal method in those cases in which the cervix is still unprepared for delivery, *if it were not* for the blood escaping from the uterine cavity. Vaginal Cesarean section should not be performed when the operator can not see what he is doing. Again, the additional blood lost from the incisions might be just the amount which would determine the death of an already anemic woman.

When full dilatation is secured, version, forceps or craniotomy should be used, the choice being determined by the condition present. When version is elected, it should be borne in mind that extraction must be immediately performed; if delays occur in the course of the extraction, the partially emptied uterus may fail to contract, the actual cavity of the uterus may become filled with fresh blood, and this hemorrhage may be the direct cause of death. As when ablatio occurs nearly all the babies are dead from the asphyxia incident to the placental separation, the more general employment of the cranioclast is to be strongly recommended.

De Lee, in a recent communication, suggested the se of the Stowe bag, with the idea that the uterine ıvity could be filled with saline solution, thus rais- ıg intrauterine pressure, restraining the effused blood until full dilatation was secured by hydrostatic pressure, when extraction could be carried out. The principles of the use of the bag are in a measure those suggested by the advocates of the tampon. The tampon and bag will convert the patent into an occult hemorrhage. The bag, like the tampon, is too slow and uncertain in its action. Theoretically, the tampon and bag will raise intrauterine pressure until it is as high or higher than that of the blood pressure, when bleeding will cease. This would be true clinically if the uterus were an inelastic cavity; but, as the uterus is a contractile organ, its cavity must be larger in the interval of contraction than during the height of its activity, so, no matter how much saline solution could be placed in the uterus, or how effectually the blood has been restrained, intrauterine pressure never could be raised to the point at which the uterus was full.

Abdominal section has been suggested and employed as a means of delivering the woman. For hospital patients who have actually rigid cervices this method offers far greater advantages than vaginal Cesarean.

If the placenta is not delivered with the child, then immediate manual removal should be employed, with the removal of all clots from the uterus. As the uterus is so constantly atonic during and after delivery, no time should be wasted in questionable methods of securing retraction and arrest of a possible postpartum hemorrhage, but the uterus and vagina should be tightly packed with antiseptic gauze. This is so important that I hold that cases of ablatio not given the benefits of a uterovaginal tamponade have not been adequately or properly handled. The excuse of some physicians that the gauze is not at hand is as nonsensical as for a man to say that he did not provide himself with a scalpel for a laparotomy.

I can not emphasize too strongly the absolute necessity of having an assistant who will use firm fundal compression during the extraction of the fetus and after the tamponade until the uterus is firmly contracted.

A few words concerning the routine treatment of hemorrhage: Saline solution should be given early, before delivery, while the preparations are being made for delivery, and afterward if it is needed. The amount of saline solution should be about double the estimated blood loss. The saline solution may be increased in efficiency by adding to it adrenalin solution—ten drops to the one or two quarts. General stimulants, such as strychnin, digitalis, coffee, camphorated oil, ether and whiskey, serve their purpose.

Finally I approach the question of ergot with some diffidence, for my opinion on the use of ergot in this one complication is at variance with that of my usual teaching, as well as that of others. The hemorrhage of ablatio is the one condition permitting the use of ergot before the uterine contents have been delivered. The ergot never must be given in full doses. The fractional doses of ten to twenty minims may be repeated two or three times in the course of an hour if the uterus be atonic. *The atonic uterus is the sole indication;* after delivery all these patients should be given full doses to secure a permanent retraction of the uterus.

412 North State Street.

ABSTRACT OF DISCUSSION.

DR. JOSEPH B. DELEE, Chicago: Dr. Holmes has suggested the name of "ablatio placentæ" for the premature detachment of the normally implanted placenta to go alongside of the term of placenta prævia. Premature detachment of the normally implanted placenta is rather a long term. The term "ablatio," the English of which is ablation, did not appeal to me, however, because we use it to signify the carrying away of a part, whereas the intention in this connection is to give the idea of tearing loose. In the terms to cover the idea of premature detachment of the normally implanted placenta we wish to have, first, the idea of suddenness; second, the idea of prematurity; third, the idea of the normal position of the placenta; and fourth, the idea of violence. There is no Latin term that would go with placenta and cover all these points. I have made a diligent search and have spoken to several Latin scholars. The nearest approach to it is, *abruptio placentæ*, which means a tearing loose, a breaking away from. Dr. Holmes is right when he says that ablatio placentæ is more common than placenta prævia. In my experience it is a little over twice as common, there being fifty-nine cases of placenta prævia to twenty-six of ablatio placentæ. Not infrequently the placenta is located low in the uterus and a portion of the placenta is over the internal os, but beyond the reach of the finger. This becomes detached, so that we might perhaps speak of a mixed form; without doubt some cases of placenta prævia and ablatio placentæ are confused. When the discussion arises in regard to the interruption of pregnancy in the latter months of gestation in cases of chronic nephritis, the detachment of the placenta should be borne in mind and the danger of death of the child from this cause should be taken into consideration. I do not think that Dr. Holmes emphasized the question of shock sufficiently. Without doubt the shock is caused by the sudden loss of blood, but the rapid and painful distention of the uterus produces a condition of shock which is not commensurate with the amount of blood lost. The frequency of the accessory tumor I believe is exaggerated. I believe that treatment consists in the most rapid emptying of the uterus consistent with safety. If the patient is in a hospital and if the conditions for rapid delivery from below are not ideal, the abdominal Cesarean section offers the quickest and safest method of emptying the uterus. If, however, a rapid dilatation of the cervix can be made, that is the ideal treatment. If the patient continues to bleed a firm tampon should be placed in the uterus. I have performed vaginal Cesarean section three times with success in cases of abruptio placentæ.

Dr. S. Straus, New York: I think that vaginal Cesarean section is the method *par excellence* for emptying the uterus in almost every case of this kind. By this method the operator has the field of operation directly under his eye. In one case of hemorrhage in a pregnant woman following accident in which separation of the placenta was caused there was immediate shock. The condition was recognized from the symptoms of anemia, and investigation showed that the uterus was closed with no evidence of external hemorrhage. The woman was a multipara. I saw her about two hours after the accident and delivered her easily by vaginal Cesarean section.

Dr. O. S. McCown, Memphis, Tenn.: In November, 1907, I had two cases of ablatio placentæ in private practice. The first case was that of a woman, aged 28, in a third pregnancy. The two previous pregnancies had been normal and had terminated normally. I had examined the urine of this patient two weeks previous to the time I was asked to see her and had found it normal. I was sent for at midnight and found the woman in labor, but with an elevated temperature and a fast pulse of low tension. The physical examination revealed nothing except the absence of the fetal heart sounds. The cervix was dilated nicely. The pains were as they should be, and labor apparently was progressing in a normal manner. In the course of an hour the nurse called my attention to the fact that there was some bleeding. Investigation showed that it was not a case of placenta prævia, and I diagnosed it as premature separation. Delivery was done as quickly as possible without help and the child was found to be dead. This was at the seventh month, and the skin slipped off. The woman was evidently septic at the time. The patient died on the fifth day without ever having an ounce of urine in the bladder. There was never enough urine in the bladder to make an examination of. The second case, which occurred almost in the same week, was that of a woman, aged 33, in her third pregnancy. The two previous pregnancies had been marked by pain in the arms and shoulders and were terminated in a normal manner with living children. I had seen her in these pregnancies and had made the diagnosis of a mild grade of toxic neuritis. I found nothing abnormal in the urinary examinations. At the eighth month I was sent for and found the woman in labor. The abdomen was greatly distended, and the distention was uniform. The general condition was good, as was the pulse. It was said that two weeks before she had felt acute lancinating pain. I made the diagnosis of internal hemorrhage with probably premature separation. Delivery was accomplished, but the baby was dead, evidently dead before I saw the patient. The whole mass of the placenta and the body of the child came at once with an enormous quantity of clots and liquid blood. After forty-eight hours the urine began to come, and, while it was highly albuminous, it gradually increased in quantity, and the patient went on to a good recovery. I must admit that according to Dr. Holmes' idea of the use of the tampon, I was negligent in this case, but I was fortunate enough to get firm uterine contraction and absolutely no postpartum bleeding. In the first case the placenta was separated probably during the labor. In the second case I am certain that the separation was accomplished long before the woman had gone into her labor and before I saw her. But in each case the retraction was quite firm, and the result, so far as the women were concerned, was all that could be wished for immediately following the delivery.

Dr. I. F. Harter, Stronghurst, Ill.: I was called last August in consultation with a confrère, who had been called to the case perhaps a week before. He had found the woman with some lancinating and irregular labor pains. This was her fourth pregnancy; the three previous ones had been normal and she was at this time about seven months advanced. At the time he was called in, she was somewhat anemic and he put her to bed. Along with the uterine tumor he observed a tumor about the right horn of the uterus and the right tube, which he thought, perhaps, was an ectopic pregnancy. As the time advanced the tumor increased in size and I was finally called in. From the shock from which the woman was suffering, I was convinced that there was concealed hemorrhage. The tumor was very large and conical-shaped in the right horn and tube. The woman was in poor financial circumstances, the husband a farm hand, and they were living under very unsanitary conditions. On the recommendation of Dr. J. F. Percy of Galesburg, we removed the patient to the Galesburg Hospital, where she could be constantly watched. She remained in about the same condition for about four or five days; then labor came on and she was delivered of a seven months' baby, and immediately following a large amount of blood and clots was expelled, which confirmed our diagnosis.

Dr. F. D. Marshall, Chicago: The patient whom I have in mind was seen in the fourth labor. On examination I found everything normal. The presentation was left occipito-anterior and with no indication of placenta prævia. Fifteen minutes after preparation had been made for the delivery, the patient had a profound hemorrhage. She then told me that she had had about an hour before a sharp pain in the left side up near the fundus. What had happened, was the query in my mind, to cause this premature separation of the placenta. She had been suffering for a number of days with a severe attack of bronchitis, with a cough so spasmodic that it was almost unbearable. I recognized that there was a partially detached placenta. There was little time to spare. I gave her a full dose of ergot. The membranes were ruptured and with the normal presentation the delivery was completed within fifteen or twenty minutes without resort to version, forceps delivery or anything of the kind. In this case the first examination gave no evidence of hemorrhage. The second examination showed that a very large quantity of blood had been discharged. If there had been any delay in the coming down of the head I should have performed podalic version and delivered in that manner. Promptness is the means by which most of these patients will be saved.

Dr. R. W. Holmes, Chicago: I have had three cases with characteristic developments of the accessory tumors. In one case the intern thought that it was a case of twins. I thought so until I inserted my hand and found a baby in one horn and an enormous blood clot in the other. I maintain that vaginal Cesarean section should never be done blindly. Any man who has had a case of ablatio placentæ with the large amount of blood escaping and obscuring the field of operation, knows that vaginal Cesarean section can not be done safely or well under such conditions. If there is no hemorrhage, a condition which, however, almost never occurs, vaginal Cesarean section is the scientific procedure.

THE DIURETIC ACTION OF ADRENALIN AND THE ACTIVE PRINCIPLE OF THE PITUITARY GLAND.*

E. M. HOUGHTON, Ph.C., M.D.,
AND
C. H. MERRILL, M.D.
DETROIT.

Many speculations have been indulged in by scientists to account for the physiologic function of the pituitary gland. This is especially true of the posterior or infundibular portion which in the human being is connected by a stalk with the tip of the infundibulum, and embryologically is to be regarded as an outgrowth from this part of the brain. This portion of the pituitary body, according to Berkeley, is very complex in its histologic structure; it contains many nerve cells, neuroglia tissue and a large quantity of glandular-like epithelial cells, which are so arranged as to form elongated vesicles or tubes, some of which contain a colloidal material. This structure suggests a secretory function.

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Several writers have demonstrated by physiologic experiments that when extracts of this tissue are injected into the vein of anesthetized animals certain interesting changes occur in the circulatory system. Some of the earlier experiments were contradictory, but the experiments of Howell have often been confirmed by others and repeatedly by ourselves.

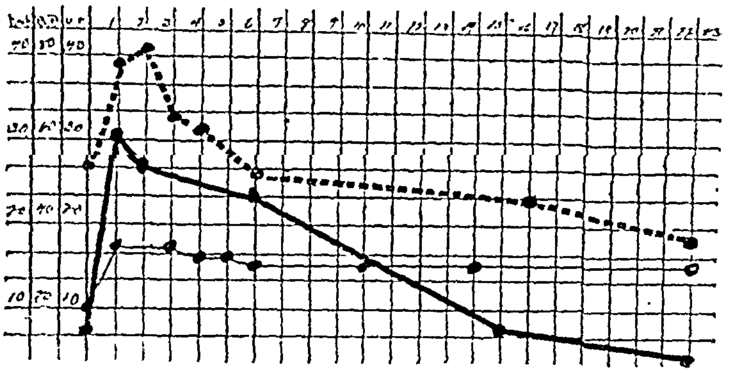

Fig. 1.—Chart showing results obtained from adrenalin. The figures in the three columns to the left indicate the respiratory rate, blood pressure in mm. Hg and urinary flow in drops, respectively. Dots indicate when observations were made. Broken line, blood pressure; light line, respiratory acceleration; heavy line, increase in ureteral flow.

The action produced is very similar to that following like administrations of adrenalin. The blood pressure is markedly raised chiefly by peripheral stricture. In the case of adrenalin this action is very transient, while with the pituitary material the blood pressure remains elevated much longer, in some cases a half hour or more. Howell points out the fact that repeated injections were followed by less and less rise of blood pressure until finally there was practically no response at all. This is well brought out in Figure 8. The pulse rate is slowed even when the vagi are cut or atropin has been administered, and the heart beats stronger than before.

For the experiments outlined in this paper we have employed an extract prepared by our colleague, Dr. T. B. Aldrich, using the method given in a paper read before the American Physiological Society, which he describes as follows:

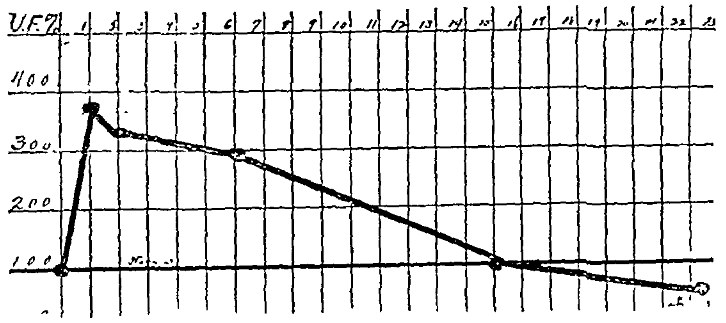

Fig. 2.—Chart showing average urinary curve for five dogs receiving .00001 gm. adrenalin in 5 c.c. saline solution and injected into the femoral vein. Figures at the left show percentage of increase of urinary flow. Figures at top indicate minutes.

PREPARATION OF EXTRACT OF INFUNDIBULAR BODY.

The infundibular portion of the pituitary body is carefully separated from the hypophysis cerebri and ground to a very fine pulp. To this, which constitutes about 8 per cent. of the weight of the moist gland, acidulated water (twelve times its weight) is added, and the mixture gradually heated to about 90 C. A portion of the proteid matter is coagulated by this procedure and removed by filtration. The remaining proteid, together with the phosphates, is removed for the most part with a solution of uranium acetate. The filtrate is practically without color and free from proteid. It represents the extract that has been used in the physiological experiments. One c.c. of such an extract, when injected intravenously into a dog, causes a rise of from 15 to 45 mm. of mercury and represents 0.1 gm. of moist infundibular body or 0.01 gm. of dry. Since there is considerable inorganic matter present, the active body in 1 c.c. must be much less than the above. I think I am safe in saying that the active substance in 1 c.c. of such an extract is not more than 1/32 of a grain. In all my experiments, extending over some months, in which thousands of glands have been used, I have found such extracts, for the most part, very uniform in their physiologic action when injected intravenously.

From this concentrated extract Aldrich also reported having obtained a crystalline picrate and a sulphate in solution, which were found extremely active in producing a rise in blood pressure. We have conducted extensive experiments which showed positively that this material is practically non-toxic when given internally or injected subcutaneously into guinea-pigs or rabbits or injected into the abdominal lymph sac of frogs.

The purpose of this paper, however, is to consider more especially the influence of the pituitary material on the secretion of urine. Professor Shafer in a recent paper makes the following statements:

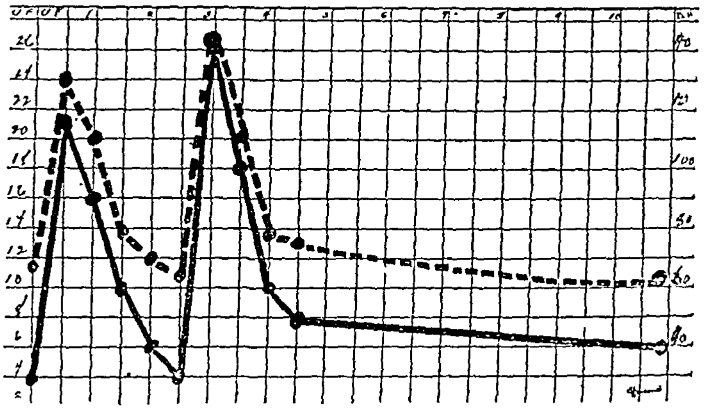

Fig. 3.—Chart showing that the increase in urinary flow (heavy line) follows very promptly on the repetition of the dose of adrenalin. The broken line indicates the blood pressure; the injections were made at 0 and at 2½.

INFLUENCE OF PITUITARY MATERIAL ON URINE SECRETION.

Pituitary extracts contain another hormone, the action of which is even more interesting than that which affects the heart and vessels. This second hormone has been found by Dr. Herring and myself to have a specific effect on the functions of the kidneys and to promote a free flow of urine—even if, as is often the case with animals under anesthesia, the urine may for a time have ceased to flow. Preceding or accompanying this increased flow of urine the kidneys expand, owing to the dilatation of the arterioles, so that the pituitary extract, while producing vascular constriction throughout the body generally, produces in the kidney vessels the opposite effect. This by itself must greatly assist the formation of urine.

But it is certain that, apart from the physical assistance to the formation (filtration) of urine derived from the increase of blood pressure and blood flow within the kidney, which it produces, pituitary extract also has a specific exciting effect on the cells which secrete the urine. In other words, although ordinarily accompanied and aided by a rise of general arterial pressure, due to general arterial constriction, and by expansion of the kidney vessels, due to local dilatation, the increased secretion of urine is essentially due to the glandular cells of the organ being stimulated to activity by the agency of a specific hormone.

This is proved by the fact that if a "repeat dose" of pituitary extract be given—which, as we have seen, is inactive so far as the rise of blood pressure is concerned—marked increase in the rate of flow of the urine can still be obtained. This may be accompanied by dilatation of kidney vessels, but, on the other hand, such dilatation may not occur at all—so that it is clear neither the kidney dilatation nor the rise of blood pressure are essential to the diuretic effect of pituitary extracts, which is due, therefore, to the presence of a special hormone. . . . That the internal secretion of the pituitary acts normally in promoting the functions of the kidneys there can be little doubt. This is, indeed, confirmed by the frequency with which polyuria is mentioned as a symptom in cases where the pituitary has, on postmortem examination, been found to be enlarged.

DETERMINATIVE EXPERIMENTS.

Three series of experiments were undertaken to determine if possible the reason for the diuretic action produced by the active substances of the infundibulum as reported by Shafer.

Observations were made on the excretion of urine by two normal individuals, care being taken during the periods of observation, which extended over several days, that the food, drink and habits and the periods of work, exercise, etc., should be the same. After the normal excretion of urine had been determined by careful observation, relatively large doses of the pituitary extract were given internally, with the result that, apparently, there was a slight increase in the amount of urine voided during the periods of observation, which corresponded to those of the normal. The results, however, were inadequate to establish the positive fact that the material produces any marked diuretic influence on persons in health. Observations were likewise attempted on dogs, but the results were even more irregular than those obtained in the experiments on human beings, so it was concluded necessary to make additional observations by more refined laboratory experiments. Owing to many interruptions, however, and absence from the laboratory on pressing matters, the experiments have not been as exhaustive in character as was at first intended; in fact, this report may be looked on as one of progress merely to be amplified and completed by subsequent work.

A series of dogs were anesthetized by morphin and chloretone. Cannulæ were placed in the ureters for measuring the outflow of urine from the kidneys, the individual drops being recorded on the kymograph (Fig. 4) through electric connection.[1] The carotid artery was connected with a mercury manometer so that records could be made directly on the drum of the kymograph (Fig. 4). The respiratory movements were also recorded on the kymograph (Fig. 4). The three connections were not made in all of the experiments, as it was deemed unnecessary.

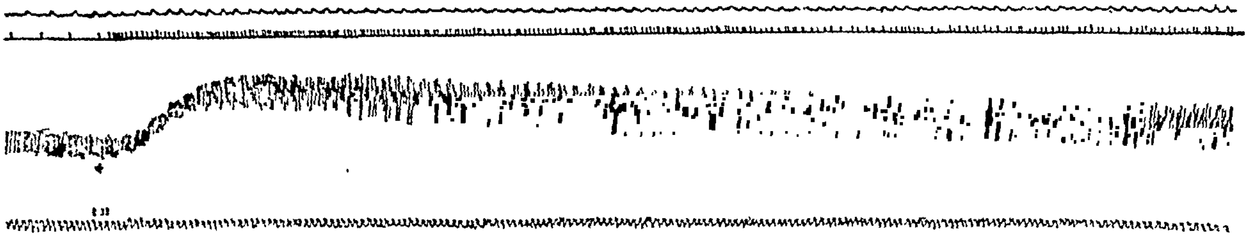

Fig. 4.—A typical kymographic tracing from which the analytical charts have been prepared. Top line, respiration; second line, water flow; third line, blood pressure; bottom line, time in seconds.

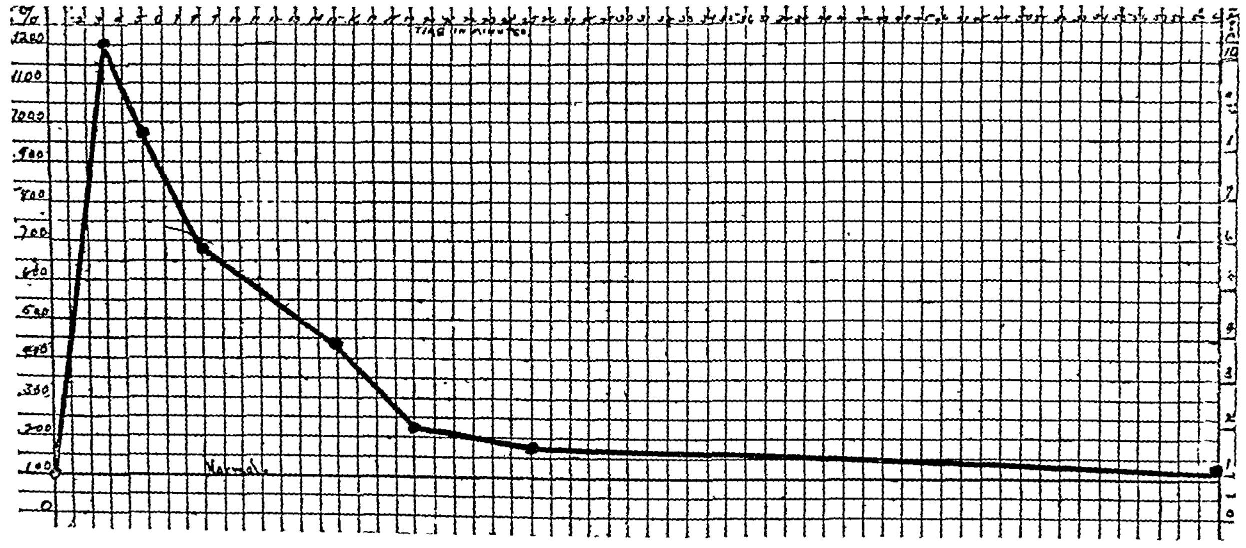

Fig. 5.—Chart showing the average urinary flow from five dogs receiving the pituitary extract in the vein. Figures at the left, percentage of increase; those at the top, time in minutes.

Reference to Figure 4 will show the manner of recording the experiments. The upper tracing is the record of the respiratory movements. It was intended only to register the number—not the character—of the respirations. Immediately below, a tracing records the drops of urine flowing from the ureteral cannula, each perpendicular stroke indicating a drop of urine. The next tracing below is the record from the carotid artery. At the bottom is the time record in seconds. Immediately above the actual time of the observation is recorded in numerals. The experiments showing the action of adrenalin and pituitary extract were carried out in precisely the same manner.

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[1] See explanation accompanying the chart in Figure 4.

The chart in Figure 1 indicates in a characteristic way the results as obtained from adrenalin, being transferred from the kymograph sheet to the tracing cloth and the analytical data expressed in numerals. The three columns of figures at the left-hand side of the sheet indicate the respiratory rate, urinary flow in drops and blood pressure in millimeters of mercury, respectively. The figures at the top of the sheet indicate the time from the beginning of the experiment in minutes. The dots on the lines indicate the time at which observations were made. It will be observed that the blood pressure (broken line) rose very sharply from 56 to 88 millimeters of mercury, but within six minutes from the beginning of the experiment had fallen back to normal. This is characteristic of the blood-pressure action of adrenalin when administered intravenously. The light line indicates the respiratory acceleration. The heavy line shows the increase in ureteral flow from 8 minims per minute to 30 minims per minute, the maximum increase in flow corresponding fairly closely in time with the maximum blood pressure. The increase in urinary flow, however, continues for a much longer time than the increase in blood pressure, at the end of fifteen minutes the flow being approximately the same as at the beginning of the experiment.

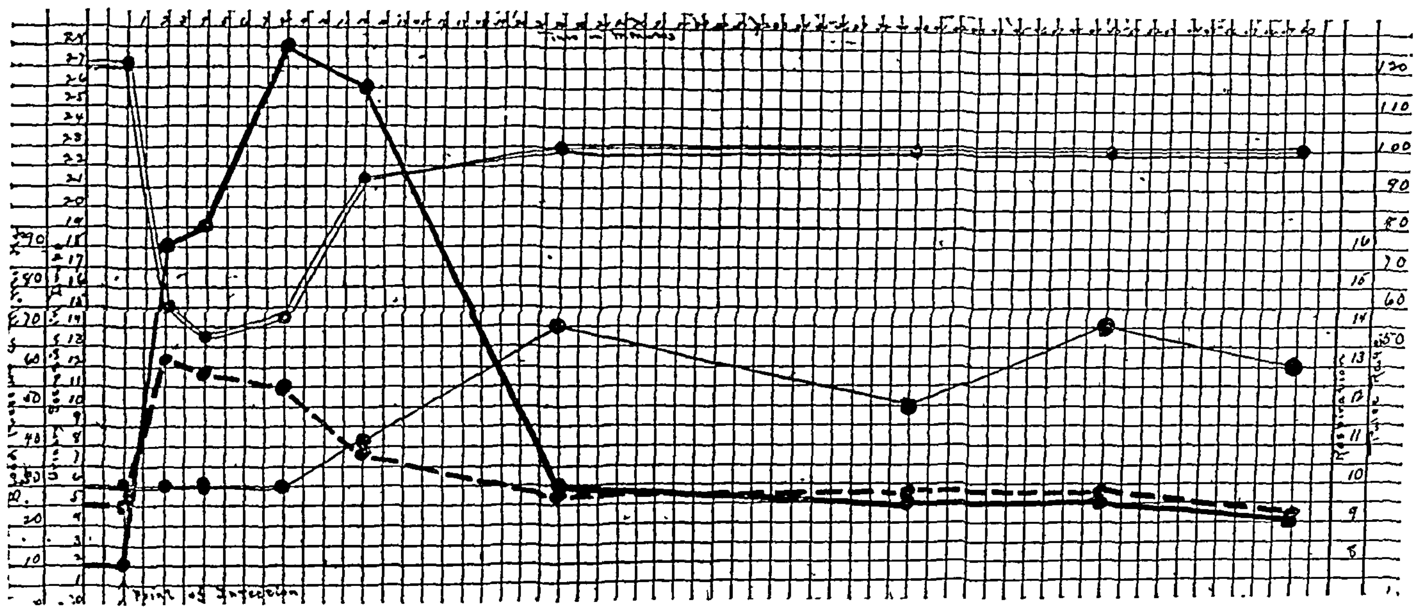

Fig. 6.—Chart showing the result of one experiment with pituitary extract on the respiration, blood pressure, pulse rate and urinary secretion of an anesthetized dog. The numerical values of the tracing are indicated at the right and left sides of the sheet. Heavy line, ureteral flow; broken line, blood pressure; light line, respiration; double line, pulse.

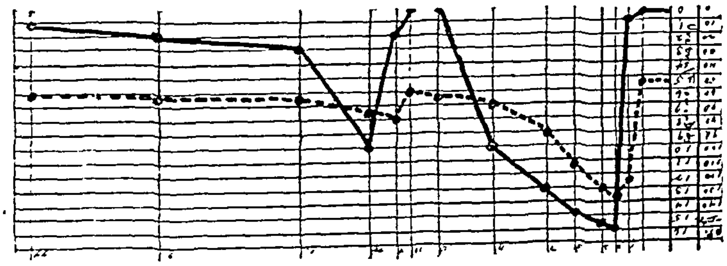

Fig. 7.—Chart showing the action of pituitary extract in repeated doses. Note that the blood pressure rises much less after the second injection, while the increase in urinary flow is very marked, but still less than after the primary injection. Heavy line, ureteral flow; broken line, blood pressure; injections at 0 and 17 mins.

The chart in Figure 2 shows the average urinary curve for five dogs receiving administrations of 1/100,000 of a gram of adrenalin dissolved in 5 c.c. of saline solution and injected into the femoral vein. The figures at the left-hand side of the sheet indicate the percentage of increase of the urinary flow, while the time from the *beginning of the experiment* in minutes is given at the top.

It will be observed from the charts in Figures 1 and 2 that the increase in the flow of urine corresponds quite closely to the rise in blood pressure but that the flow continues above normal for some minutes after the blood pressure has reached normal.

Experiments were undertaken after the technic of Sollmann[2] to determine the action of the pituitary extract on the secreting cells of the isolated kidney. Cannulas were placed in the renal vein and ureter and determinations made of the flow of blood from the cannula in the vein and the amount of urine secreted and flowing from the cannula in the ureter, record being kept from time to time. The kidneys were placed in a saline solution kept at body temperature; likewise, the fluid for perfusing the kidney was warmed beforehand; apparatus was arranged so that perfusion could be carried out at 50 and 100 mm. of mercury pressure; the experiments being undertaken to determine whether the pituitary extract had a specific influence on the secreting cells of the kidney or whether the increased flow of urine observed in animals receiving intravenous injections of pituitary extract was merely dependent on the increased blood pressure produced. The following tables will give the details of the experiments:

TABLE 1.

SHOWING EFFECT OF INTRAVENOUS INJECTION OF PITUITARY EXTRACT.

Time.	B.P. in mm. Hg.	Pulse per min.	Resp per min.	Urine, drops per min.
Normal	30	96	6	5
8 :35*	..	..	..	..
8 :35½	55	84	10	52
8 :36	63	74	14	62
8 :40	45	66	14	28
8 :45	36	74	10	26
8 :50	33	78	8	18
8 :55	32	92	8	14
9 :00	32	98	10	12
9 :05	32	104	10	10
9 :15	31	108	8	6

* At 8 :35, 2 c.c. pituitary extract injected intravenously.

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[2] Am. Jour. Physiol., February, 1908.

TABLE 2.

Time.	Ureteral Flow.	per Minute. in Minims
10:00	A. Kidney perfused with 1 per cent. saline at 50 mm. mercury pressure.	
10:01		14
10:03		14
10:06	4 minims per minute	10
10:21	B. Pressure raised to 100 mm. mercury.	
10:21	12 minims per minute	50
10:24	11 minims per minute	25
10:27	C. Pituitary extract, 1½ mg. to 0.0015 gms. per c.c. of saline. Pressure 100 mm. mercury.	
10:28	12 minims per minute	20
10:31	6 minims per minute	26
10:36	5 minims per minute	21
10:37	D. Blood pressure lowered to 50 mm. mercury.	
10:39	2 minims per minute	35
10:40	1 minim per minute	20
10:42	E. Saline, 1 per cent., used instead of pituitary extract solution.	
10:44	Zero	12
10:48	Zero	12
10:49	F. Pituitary extract added as before.	
10:51	Zero	12
10:58	Zero	8½
11:01	Zero	8½
11:05	G. Raised pressure to 100 mm. mercury.	
11:06	Zero	25
11:07	3 minims per minute	36
11:14	3 minims per minute	45
11:17	3 minims per minute	35
11:22	H. Pituitary extract withdrawn and 1 per cent. saline introduced.	
11:22	3 minims per minute	40
11:23	3 minims per minute	40
11:33	2 minims per minute	30
11:43	4 minims per minute	42
11:45	4½ minims per minute	46
12:44	I. Pituitary extract added as before.	
12:47	4 minims per minute	80
12:50	4 minims per minute	90
1:05	2 minims per minute	100
1:35	1 minim per minute	100
1:41	J. Saline, 1 per cent.	
1:55	1¼ minims per minute	96

TABLE 4.

Time.	Ureteral Flow.	Venous Flow in Minims per Minute.
10:20	A. Saline, 1 per cent., at 50 mm. mercury pressure. Perfusion of fresh kidney.	
10:23		6
10:27		5
10:32	1½ minims per minute	5
10:40	1½ minims per minute	6
10:45	1½ minims per minute	5½
	B. Raised to 100 mm. mercury pressure.	
10:46	6 minims per minute	75
11:00	1 1/5 minims per minute	15
11:05	1 1/5 minims per minute	..
	C. Lowered to 50 mm. mercury pressure.	
11:09		7½
11:25	1 minim per minute. (Flow very slow both sides.)	
11:33	D. Pituitary extract. 50 mm. pressure. (1 mg. to 3 c.c., 1 per cent. Saline.)	
11:35	1 1/5 minims per minute	..
11:40	1½ minims per minute	7
11:41	E. Raised to 100 mm. mercury pressure.	
11:42	4 minims per minute	15
11:45	5 minims per minute	15
11:54	5 minims per minute	15
11:55	F. Lowered to 50 mm. mercury pressure.	
11:56	2 minims per minute	6½
12:00	1¼ minims per minute	6
12:05	1 1/5 minims per minute	5

From these tables it will be observed that at 50 mm. mercury pressure a 1 per cent. physiologic salt solution produces but a slight flow of urine through the ureter. When the pressure is increased to 100 mm. mercury, both the urethral and venous flow is markedly increased. The same general fact is observed when pituitary extract is added to the saline perfusion, but the urethral and venous flow is less, both at 50 mm. of mercury and at 100 mm. of mercury than where saline alone is used.

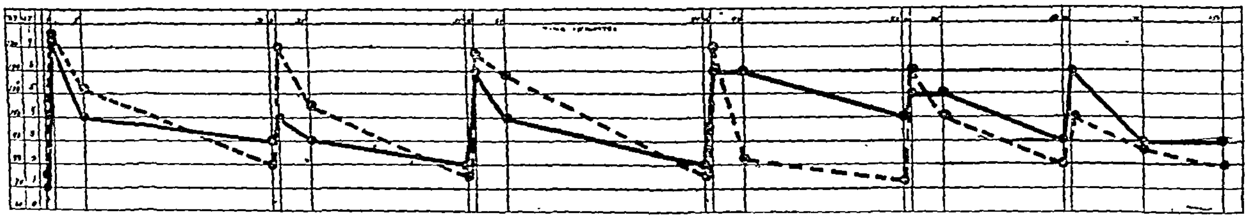

Fig. 8.—Chart showing the effect of repeated intravenous injections of pituitary extract on the blood-pressure and urinary secretion of anesthetized dogs. Heavy line, ureteral flow; broken line, blood-pressure; injections at 0, 31, 55, 85, 110, 130 minutes.

TABLE 3.

Time.	Ureteral Flow.	Venous Flow in Minims per Minute.
3:30	A. Saline, 1 per cent., at 100mm. mercury pressure.	
3:31	18 minims per minute	36
3:34	12 minims per minute	30
3:36	12 minims per minute	26
3:37	B.—D. F. Blood at 100 mm. mercury pressure.	
3:38		24
3:40	4 minims per minute	16
3:45	5 minims per minute	10
3:46	8 minims per minute	12
3:46½	4 minims per minute	12
3:50	4 minims per minute	10
3:55	4 minims per minute	10
4:00	3½ minims per minute	14
4:05	3¼ minims per minute	14
4:10	2¼ minims per minute	14
4:25	1½ minims per minute	12
4:26	C. Lowered to 50 mm. Mercury pressure.	
4:30	Practically blocked.	
4:35		2
4:38		1½
4:40	D. Pituitary extract at 50. mm. mercury pressure.	
4:45	1¼ minims per minute	1⅓
4:50	2 minims per minute	3
4:55	1⅓ minims per minute	5
5:00	E. Pituitary extract at 100 mm. mercury pressure.	
5:01	3 minims per minute	40
5:05	2½ minims per minute	50
5:10	2½ minims per minute	46

CONCLUSIONS.

From these experiments it would seem to us that the explanation of the increased urinary flow in anesthetized animals depends chiefly on the increase in blood pressure produced by the intravenous injection of the adrenalin solution or the pituitary extract in solution rather than on a specific action on the secreting cells of the kidney. It is possible, however, that a specific action on the kidneys occurs, but if so it is less marked than in the case of the 1 per cent. saline solution.

Macroscopic observation of the perfused kidney indicated that there was considerable enlargement of the organ while the experiments were being carried out. This would assist in the more rapid secretion of urine, especially if accompanied by increased pressure, but, as just stated, there is not the same degree of relaxation or dilatation of the blood vessels in the kidney as follows the perfusion with the saline itself. This is as we would expect, since experiments on the web of the frog, on the inflamed conjunctiva of the rabbit and other animals show positively that the pituitary extract does narrow the caliber of the arterioles.

If the pituitary extract possesses, as Shafer believes, the specific secretory effect, it would seem to us that it should manifest itself by greatly increased flow of urine when brought in contact with the secretory cells of the kidney. If it does have this specific action it has it to a much less degree than sodium chlorid itself.

THE TREATMENT OF TUBERCULOSIS BY THE ADMINISTRATION OF MERCURY

AT THE UNITED STATES NAVAL HOSPITAL, NEW FORT LYON, COLO.

BARTON LISLE WRIGHT, M.D.
Surgeon, United States Navy.
LAS ANIMAS, COLO.

COMPARISON OF TUBERCULOSIS AND SYPHILIS.

Both tuberculosis and syphilis are classed by pathologists among the infectious granulomata. The pathologic histology of the two diseases are so similar as to be almost identical. I venture to say that a microscopic diagnosis between a gumma and a tubercle is almost impossible in many instances unless the specific microorganism of one or the other disease be found in the tissue under examination.

In both diseases the pathologic lesions are represented by a round-cell infiltration of the affected tissues. In both cases the lesions may vary in size from that of a pin-head to a large mass or tumor.

Stengel's Pathology (1906) says of the tubercles (p. 278): "Tubercles tend to coalesce, forming larger tubercular masses, and sometimes distinct tuberculous tumors are so produced." Of gummata the same work says (p. 311): "The gumma presents itself as a nodular mass, varying in size from small tubercle-like formations (*miliary gummata*) to tumors the size of an orange or larger." In regard to the pathology of syphilis of the lungs, Stengel writes: "It has been the occasion of much dispute whether the many forms of disease attributed to this cause can be really so classified. Undoubtedly some of the conditions attributed to syphilis are cases of tuberculosis or of some other form of pulmonary disease."

Stengel writes of the Lustgarten bacillus as follows (the edition of 1906 is cited in all these quotations): "The attempts to find a specific cause for this disease (syphilis) have not as yet met with definite success. The organism which until very recently had the best claim to recognition is that observed by Lustgarten. This resembles the tubercle bacillus very closely." I shall refer to the Lustgarten bacillus later.

Tuberculosis is a chronic, infectious, granulomatous disease, characterized pathologically by a round-celled infiltration of the affected tissues or organs, and symptomatically by various symptoms common to all debilitating diseases which tend toward cachexia. If the word "syphilis" be substituted for "tuberculosis" in the above definition, the characterization seems to be accurate.

A study of the pathology of both diseases will show their close relationship from this standpoint. Their symptomatology, closely observed, does not reveal any wide differences except the early symptoms of syphilis (the chancre and early secondary lesions). This similarity is especially noticeable in the comparison of these diseases occurring in the same organs or tissues. In the late secondary or tertiary stages, without an absolute syphilitic history, unless the specific organism of one or the other disease be found, or one of the tuberculin tests be applied, a differential diagnosis is often impossible.

THE LUSTGARTEN BACILLUS.

From the present point of view it appears probable to me that the authentic cases of syphilis in which Lustgarten and others found his bacillus were complicated by tuberculosis; that the bacillus found in the lymph glands and channels, in the blood, and in the various organs were tubercle bacilli; and that the lesions in these organs or tissues were of mixed origin. That these organisms disappeared under mercury was, at that time, a strong argument that they were the bacilli of syphilis. During the six months in which we have treated tuberculosis at the naval hospital with mercury we have seen the tubercle bacillus rapidly diminish and disappear from the sputum. Since it is now definitely established that the *Treponema pallidum* is the specific cause of syphilis, it would appear probable that the disappearance of the Lustgarten bacillus under mercury in certain cases occurred because this drug had a pronounced antituberculous as well as antisyphilitic action.

The text-books on therapeutics teach that the administration of mercury is contraindicated in debilitating diseases tending toward a state of cachexia; yet for years we have treated syphilis with mercury, and I do not think any one will question that this disease occupies a prominent position in this class of diseases.

RESULTS OF TREATMENT.

During the past six months we have not found a single tuberculous patient whom mercury injured in the least; on the contrary, in over 85 per cent. of all the cases so treated an improvement has taken place, and in most instances this improvement was decidedly marked, not only from the point of general condition, but the diseased pulmonary area was greatly reduced. Nor has this improvement been confined to the diseased lung, for we have cured a number of patients with secondary tuberculous laryngitis, one with secondary tuberculous epididymitis and one with secondary tuberculosis of the kidney and prostate.

My attention was first drawn in the spring of 1905 to the antituberculous action of mercury. At that time I was on duty at the U. S. Naval Hospital, Pensacola, Fla., having a camp for the treatment of tuberculosis as an adjunct. We had several cases with a mixed infection of tuberculosis and syphilis, the latter disease being in the early secondary stage, with the characteristic skin eruption present on admission, and with a profuse mucopurulent expectoration, which in both instances contained numerous tubercle bacilli. Physical examination revealed extensive pulmonary involvement, and both were running high temperatures.

The patients were placed on mercury and both improved with astonishing rapidity. The temperatures soon fell to normal and the physical evidences of syphilis quickly disappeared. The patients gained weight rapidly, the tubercle bacilli in the sputum rapidly diminished, cough and expectoration were much lessened, and physical examination of the lungs revealed a remarkable improvement in the condition of these organs.

This led me to believe that mercury must have some pronounced antituberculous action. A study of the pathology and symptomatology of syphilis convinced me that this thought was not unreasonable.

I then placed about twelve tuberculous patients, whom I thought free from syphilis, on mixed treatment by mouth, obtaining excellent results in most instances.

About this time I was detached from duty at the hospital and ordered to sea, which prevented further work in this line.

In January, 1908, having been ordered to duty at the U. S. Naval Hospital, New Fort Lyon, Colo., I resumed the experiment, now giving mercury by deep muscular injections, in order to avoid the derangement of the gastrointestinal tract which had given my earlier patients considerable annoyance.

The results of this method of treatment were reported to the Surgeon-General, U. S. Navy, under date of March 1, 1908, and were published by the Bureau of Medicine and Surgery in the April number of the *United States Naval Medical Bulletin.*

A second and more elaborate report, submitted under date of May 25, 1908, appeared in the July number of the above magazine. In this paper I considered forty cases with 70 per cent. improved, in many of which the improvement was marked.

A third paper, under date of July 28, 1908, appeared in the *New York Medical Journal,* Aug. 29, 1908.

During the first quarter, ending March 31, 1908, our death rate was 11.29 per cent.; during the following quarter, ending June 30, the death rate was 4.76 per cent., or a reduction of 42 per cent. I think this great reduction in the death rate most significant. To my mind it clearly establishes the specific nature of mercury in relation to tuberculosis.

During the present quarter, ending September 30, we have had but one death, with a daily average of 105 patients, giving a death rate of 0.95 per cent., or a reduction in the death rate over the previous quarter of 80 per cent. and over that of the quarter ending March 31 of 91 per cent.

This would seem to be the best evidence that the reduction in the death rate during the second quarter was not accidental but entirely due to the administration of mercury. It emphasizes in a marked degree the antituberculous properties of the drug and strengthens my convictions as to its specific qualities, expressed in my second report.

These results appear all the more remarkable when we consider the fact that over 60 per cent. of the patients on admission are far advanced, in many of whom grave secondary involvements complicate the serious pulmonary lesions.

During the past five months all the deaths but one have been those of patients who have been in the hospital less than two months. Autopsy in all cases revealed extreme pulmonary involvement, secondary ulcerative tuberculosis of the intestinal tract and larynx and tuberculous involvement of many of the internal organs.

We began this treatment about seven months ago, and so far the results have been so exceedingly and uniformly good as to warrant us in regarding mercury as a strong antituberculous agent, if not a specific in this form of disease. We have now ten officers and fifty-seven enlisted men who have been on mercury for two or more months. Of the ten officers so treated all have improved, nine with remarkable rapidity. One failed for the first few months but is now improving.

Of the total number of patients under treatment, 86.5 per cent., or fifty-eight, have improved. Two of these have been cured, and in many of the others the improvement has been exceedingly marked.

Of the two cured one has been restored to duty and is serving on board the U. S. S. *West Virginia.* The other ceased taking mercury some two months ago, since which time he has been employed in the stables at this hospital. Up to August 2 his health had been excellent and he has maintained his weight of 169 pounds. Unfortunately, on the date named above, after several days of feeling ill, he was placed in bed with a diagnosis of typhoid fever, which has been confirmed, for we now have a small epidemic of this disease among our patients.

If this patient recovers, and this seems probable, it will be interesting to see whether or not it will relight his recently cured pulmonary tuberculosis.

Two officers, who are not included in the sixty-seven cases mentioned above but were among the first to avail themselves of this method of treatment, have returned to duty.

The first, discharged as cured on April 2, has since passed his examination for promotion to a lieutenancy and served as executive officer of a large receiving ship, which duty requires constant mental and physical execution. He is now at sea. His health is and has been excellent since his discharge from this hospital.

The second, who has had tuberculosis since 1898, left the hospital at his own request on June 13 with evidence of disease still remaining in both apices and a few tubercle bacilli present in his sputum. Since that time he has been on duty in Brooklyn, N. Y. I recently received a letter from him dated August 3, in which he states that he is enjoying excellent health and has held his weight of 180 pounds, in spite of the extreme hot weather and bad climatic conditions. He is keeping up the injections of mercury.

Of the remaining 13.5 per cent. of the sixty-seven patients considered, two have held their own, six have failed and one has died. The autopsy in this last case showed total involvement of both lungs, both of which were riddled with communicating cavities and the entire small intestine encircled with tuberculous ulceration, and the liver and spleen were both the seat of tuberculous disease.

Among the patients considered above we have had fifteen with secondary tuberculous laryngitis, ten of which were ulcerative and five infiltrative, all of which have been cured. These cases also embraced eight cases with cavity formation, in five of which improvement took place, while in two the cavities have been absolutely obliterated. Of the remaining three, two have failed and one died.

As is natural, of the sixty-seven patients treated with mercury eighteen are men at present confined in bed in the infirmary, where in most instances their serious condition required them to be placed on admission. These patients would ordinarily be regarded as hopeless, yet 50 per cent. of them are improving, and there is much more pronounced movement from the infirmary to the ambulant wards than the reverse.

The above results have been obtained under the most adverse circumstances, for the hospital is under process of construction and is being built up around the patients. We lack many of the conveniences and some of the necessities of a completed hospital and have been short of medical officers and nurses at all times. The officers who are patients have been quartered in old dwelling-houses built in the sixties, repaired to meet the emergency, but with slight provisions for out-door life, while the infirmary is the old post hospital built about the same time and but poorly adapted to its present use. Plans have already been prepared for new buildings for these purposes, and we hope that we shall soon have buildings of modern construction and design.

By contrasting the above results with those obtained by the patients who have refused the mercury treatment, but who have enjoyed every other advantage this hospital affords, viz.: rest, life in the open air, splendid climate, good and suitable food—in fact, all that the present condition of this hospital affords—the argument in favor of the administration of mercury is most clearly established.

Of all the patients who have passed through this hospital and have not taken mercury but 33 per cent. have improved, and in most of these the improvement has been more from the standpoint of general condition, as in but few cases has the pulmonary lesion been decreased in extent.

ACTION OF MERCURY.

We believe that mercury acts in two ways: first, as a tonic, increasing the vitality of the cellular elements of the various organs and tissues, and, second, in rendering the blood bactericidal, producing an antitoxin therein, which has a direct destructive action on the tubercle bacillus. This action of mercury is cumulative and lasting, and the immunity conferred by the early doses, plus the resistance to the disease developed by the increased cellular vitality, places the patient in such condition that as treatment is continued smaller doses of mercury are required to obtain the desired results.

If we continue to give the improving patient the same dose of mercury on which he was first placed and began to improve we shall sooner or later notice, first, a rise in temperature, and, second, a loss of weight. Should these signs be passed unnoticed, it is probable that more or less serious damage would result; possibly an active general cellular degeneration, including the cellular elements of the blood, would occur, resulting in more or less permanent damage to the patient, if not a rapid decline and death.

METHOD OF TREATMENT.

It is only by close observation of each individual patient that the original and succeeding dosage can be determined. The drug should never be pushed to the point of salivation.

Our experience with this method of treatment has shown us that the maximum dosage for the original series of injections can not be carried much beyond thirty injections without producing the conditions mentioned above, and that after a period of rest, on resuming the injections the dose carried through the second series of injections must be reduced.

Our routine, therefore, has been developed by experience as follows: One injection of hydrargyrum succinimidum gm. 0.013 (gr. 1/5) is given every other day until thirty injections have been given. Then injections are discontinued and potassium iodid gm. 0.2 (gr. iii) to gm. 0.648 (gr. x) is given, well diluted with water, one-half hour after meals for two weeks. Then potassium iodid is discontinued and no medication is given for one week. Injections are then resumed as follows: One injection every other day until thirty injections have been given, on alternating injection days giving hydrargyrum succinimidum gm. 0.013 (gr. 1/5) and gm. 0.006 (gr. 1/10) respectively. After the thirtieth injection the same course of potassium iodid is given as followed the first series of injections; then a week free from medication. The injections are then resumed again the succinimid gm. 0.006 (gr. 1/10) being given every other day until thirty injections have been given. By the end of this third series experience will direct any necessary further treatment. The above recommendation for dosage is not to be considered absolute, but only a guide. Close observation of each individual patient must fix the dose of the first series of injections.

At times the initial injection will produce a slight febrile reaction, after which the temperature should fall to what it was prior to the injection. Experience has taught us that if this drop does not occur, or if the rise in temperature occurs after the second injection, the dose administered was too large and should be reduced at once.

In conclusion, I desire to thank the staff of the hospital for their aid and support; the commanding officer, Medical Inspector C. T. Hibbett, U. S. N., for his encouragement, and Surgeon W. H. Bucher, U. S. N., whose long experience in the administration of mercury by deep muscular injections in the treatment of syphilis has made his advice and suggestions most valuable.

Special Articles

A NATIONAL DEPARTMENT OF PUBLIC HEALTH.

A MESSAGE TO THE PEOPLE ON ITS CHARACTER, STATUS AND ECONOMIC VALUE.*

CHARLES A. L. REED, M.D.
CINCINNATI.

The active interest long taken by the New York Academy of Medicine in the effort to get a stronger, more comprehensive and more definitely organized national public health administration at Washington makes it singularly appropriate that the present status of the movement and the character of probable proposals looking to that end shall be discussed in this presence. And in taking up that subject at this time I may say that I am conscious of several sources of satisfaction.

In the first place, the agitation long conducted by the distinguished body that I have the honor to address, by the American Medical Association and by other bodies of the organized medical profession, is at least bearing tangible fruit in influential cooperation on the part of the laity.

About two years ago a national public health defense league was organized in this city. A little later a movement originating in the American Association for the Advancement of Science resulted in the organization of an influential body known as the Committee of One Hundred. These two movements have since joined forces and, together with the American Medical Association, are keeping the question before the public and before Congress.

POLITICAL ACTION.

One of the practical results of their efforts was the adoption of a plank in the Ohio Republican platform of this year declaring in favor of "the organization of all existing national public health agencies into a single national public health department." The same declaration, in effect, was made later in the platform of both parties in various states, notably, I believe, in Connecticut. This was followed by declarations of similar purport in the national platforms of both the Republican and Democratic parties. I am gratified to be able to assure you that the President has been giving careful attention to this general question and that he has now authorized the statement to be made that he will formulate definite proposals and transmit them with his endorsement to Congress at its next session.

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* A public address delivered under the auspices of the New York Academy of Medicine, New York, Oct. 29, 1908.

A CAMPAIGN FOR THE GENERAL WELFARE.

It now devolves, not only on the people themselves, but on the nearly 140,000 physicians of this country, as the natural custodians of the public health, collectively and severally, to bring the most active influence to bear, not only in seconding this salutary move on the part of the President when once he shall take the step, but to anticipate that action by a prompt, active and persistent campaign in behalf of this fundamental measure for the public welfare.

The lines on which this campaign ought to be conducted vary in different localities, but there are certain general features that ought not to be ignored in any locality. These features are suggested, in part at least, by the failure to pass the various measures that have heretofore been submitted to Congress. Here let me digress far enough to say that these failures are to be construed only as valuable and, for that matter, successful educational efforts in the general evolution of the desired legislation. Nearly every law that to-day stands the test of the courts is able to do so because it has had to stand the test of more or less prolonged opposition in Congress.

Mr. Sherman framed not less than six antitrust measures, all of which were successively defeated, before he finally fashioned the great law that to-day bears his name and that for eighteen years has stood the test of every judicial tribunal in the land. But, able statesman that he was, he both learned from and taught by each successive effort and so, I trust, have we learned from and taught by the experience that has befallen us in this great effort to furnish something like adequate protection to the greatest natural resource of this country—the health, lives and productive energy of the people themselves.

SOME CAUSES OF FAILURE.

And now, prompted by this spirit, we can, I think, discover several of the causes of failure actually to pass the measures heretofore submitted to Congress. In the first place, our attempts at actual legislation were premature in the sense that they preceded the actual education of the people and the consequent development of public sentiment on the subject. In the next place, it is now apparent that previous proposals have been too radical and have too generally been framed in contravention of the fact that most legislation must be built on previous legislation and is, therefore, essentially evolutional in character. And in the third place it is now very evident that the failure of the medical profession sooner to procure this legislation in behalf of the people is attributable in no small measure to the dearth of representatives of that profession in the legislative halls of the people. We may, with advantage, examine these several reasons somewhat in detail.

A POPULAR PROPAGANDA.

The dissemination by the medical profession of knowledge with respect to public health problems has not been as widespread or as effective as either our opportunities or the character of the subject would warrant. Much, indeed, has been done, and the present information of the people is almost entirely the result of the altruistic initiative of the physicians of this country. But too much of the work has been done in, and confined to, the medical societies and too much of the publicity has been done through and confined to the medical press.

This has too generally amounted to a mere carrying of coals from Newcastle to Newcastle and back again to Newcastle. What is demanded by the times is that proceedings such as these here this evening, and such as an international tuberculosis congress and such as the county medical society, whenever relating to general welfare subjects, shall be heralded through the popular prints until they carry their lesson to every home and fireside in the land. Carry the message to the people! This should be the motto of the campaign.

THE MESSAGE TO THE PEOPLE.

But what shall be the message? In the first place let us tell the people some things that have been done, that they may judge for themselves and, judging, hope for and help secure other things that can be done. In doing so it is not necessary to go so far back as Jenner and the discovery of vaccination and to tell them of the beneficent results of that first great achievement in preventive medicine. Nor is it essential that we should recount the great revelations of Pasteur that gave him that immortality which consists in a perpetual abiding-place in the grateful memory of man. Nor need we speak of Lister. These are oft-told tales that have come to tax the interest of the hearer. But we can tell them of some things of to-day. We can tell them of Finlay, and Reed, and Lazear, and Carroll, and how, from their martyrdom, it comes that the argosies of commerce can to-day sail the seas without flying the yellow flag of pestilence. Tell them this; tell them the humanity of it all.

But if that does not appeal to them, translate it into terms of dollars and cents and show them how "profitable" has been the "investment." Compute the commercial disaster contingent on a single visitation of yellow fever to our southern seaboard. And then tell them how the recent attempted invasion of this country by that dreadful disease was repelled and defeated through the efficiency of the service under Wyman. But, above all, tell them how the zone of pestilence at the Isthmus of Panama has been made the habitation of health that the waters of the two great oceans may be joined, all made possible by the great genius of Gorgas. Tell them that, right now, health and life are being made secure on our mainland and commerce itself, domestic and foreign, is being protected by a valiant guard stationed at our seaports—stationed, for instance, right here at New York—sifting out and thrusting back the disease that comes in the guise of the immigrant, and at San Francisco, where the triumphant battle against the bubonic plague has added new laurels to our country, and especially to our Public Health and Marine-Hospital Service. Tell them of our food and drug laws, and of our supervision of cattle intended for food supply. Tell them of the sanitary work that is being done right at their doors, work that makes their homes habitable. Then tell them that if these things are being done other things that ought to be done can be done.

THE GREAT WHITE PLAGUE.

What, then, are some of the things that are not done, but that ought to be and could be done with a properly constituted national health administration? The broad answer to this question is that preventable diseases could be still further prevented to the almost incalculable benefit of the people. And this, too, must be a part of the message to the people. Let us point to tuberculosis, in the campaign to combat which the scientists of the world have but recently been in congress at the capital of our country. This is a preventable disease, yet, as I pointed out at that congress, this disease, according to the statement of experts, kills 160,000 people and keeps in invalidism nearly 700,000 more people in this country every year.

This is a veritable warfare in which the American people, arrayed on one side, are to-day offering not so much as a passive resistance to an army of invasion—the army of the bacilli—already encamped in our midst, in our very homes, a host more numerous than all the men in all the armies and all the navies of all the countries of all the world in all the ages. And each individual in that host is capable, under favoring conditions, of destroying a human life. As a matter of fact, the human lives thus sacrificed each year in this country are equivalent to the enlisted men of both our army and navy. What if these two arms of our service were wiped out of existence in a single year by a foreign foe? Do you not suppose that every resource of our country would be taxed to repel the invader, to destroy the decimating minions of death? Or suppose that first Indianapolis, then Kansas City, then St. Paul were as suddenly wiped off the map. Would not the people's representatives in Congress vote, if necessary, the last dollar in the treasury to avert such a menace from still other cities?

POISONED WATER SUPPLY.

Now let us consider a condition to which I have been calling public attention for several years. I mean the prevalence of typhoid fever, due to the almost total lack of sanitary supervision over streams that are used in large part and that, in the immediate future, must be used in still larger part as sources of water supply. Many of these streams lie within the states and consequently come within the jurisdiction of the states. But others are distinctly interstate streams and as such fall within the jurisdiction of the United States government. As the protection of interstate streams from contamination will make it necessary similarly to control their tributaries, it may be necessary to expand the functions of the national government in this regard, from the control of interstate streams to the control of interstate watersheds.

This will be especially true in all instances in which the states fail to do their duty by protecting the streams within their borders from death-dealing contamination. But both intrastate streams and interstate streams are, with few exceptions, being rapidly converted into open sewers that disseminate disease. The exceptions are found chiefly in Massachusetts, New York and Pennsylvania. No other states of which I have knowledge have adequate laws on the subject, or, if they have such laws, they do not enforce them. In this regard they are no worse than the United States government, the Congress of which, in spite of executive recommendation, and in spite of the fact that it had a bill on this subject pending before it during the last session, failed absolutely to take any action for the correction of one of the most flagrant evils now afflicting the people.

THE HORRORS OF TYPHOID.

How flagrant is this evil? The first result of stream contamination is the dissemination of typhoid fever. "A thousand miles of river and a thousand miles of typhoid" is the characterization that I have applied with justice to conditions in the Ohio watershed. Most victims of typhoid fever get the disease by drinking the excrement of some other typhoid patient. Then they, in turn, in the absence of sanitary regulations, feed their own excrement to a lot of people further down stream. These facts are very generally known, yet there is popular apathy on the subject. The thought is disgusting, but, disgusting as it is, it does not seem to have impressed itself on Congress.

Nor does the fact that about 28,000 Americans die from this disease in a single year seem to have signified anything to the very Congress under whose authorization the statistics were gathered and promulgated. Yet if every man, woman and child in either Bloomington, Ill., or Lexington, Ky., or Fort Worth, Texas, had died of that disease in a single twelve months, the world would have stood for a moment in consternation—and then something would have been done. But the death roll is not the full measure of the calamity. Nearly 200,000 people were ill of typhoid, but recovered after an average invalidism of sixty days. This is equivalent to saying that every man, woman and child in Louisville, Ky., or Minneapolis, Minn., or Providence, R. I., was ill for two months.

SOME UNSOLVED PROBLEMS.

Now I have talked so far about some demonstrated certainties. We know, in these particulars, just what can be done and just how to do it. But there are in addition many unsolved problems of almost equal importance to the people. Over 60,000 people die annually from cancer, the actual cause of which science has so far failed to reveal. And the death rate from cancer is advancing by leaps and bounds. The prevention of pneumonia, from which 125,000 of our people die each year, is an unsolved problem. The cause and nature of rheumatism needs further elucidation. Science has not yet set a barrier against the prevalence of influenza, from which alone a million or so of people are made ill and are consequently deprived of their productive energy for more or less time each year, and from which cause alone something like 15,000 people die annually. Yet these are all obviously infections and, therefore, preventable diseases. The campaign against the carrier insects—against the flies and mosquitoes, for instance—both of which are responsible for the dissemination of disease—is already a demonstrated success on the Isthmus of Panama and simply awaits legal authorization and executive machinery to make it a success in the states.

There are dozens of other unsolved problems of equal scientific and economic importance. I have ceased talking about the humanity of it all. That argument does not reach the average man. I am simply insisting that, in the presence of all this demonstrated waste—actual and needless waste in dollars and cents—it is the obvious duty of the government to establish a department of public health with power and resources that will enable it to grapple with the great problems—the greatest of all really economic problems—to a few only of which I have alluded to-night.

SOME ASTONISHING FIGURES.

Now what does all this mean? I do not speak of the pain, the sorrow, the humanity or, rather, the inhumanity of it all. There are those who have feelings, are capable of sorrow and who realize the awful significance of the fact that preventable, emphatically preventable diseases, in the aggregate, kill an average of one person every two minutes. But I now appeal to the larger number who, I grieve to say, think only in terms of dollars and cents. So let us translate consumption and typhoid, malaria and pneumonia, cancer and plague into their equivalents, into the coin of the realm. But let us begin with a few primary postulates.

In the first place the most valuable natural resource of this country, fields, forests and mines, not excepted, is the productive energy of the people. In computing the worth of this resource a human life, rather than an acre, a lode or a tree, must be the basis of reckoning. What is it worth? Let us see.

A man's life is his capital. What he earns is the interest on his capital. Then suppose that a man works 300 days in a year at $1.25 a day, and that this money thus earned, $375 a year, represents 5 per cent. on his capital, which, on that basis, would amount to $7,500. Then multiply this by 160,000 for tuberculosis, and 30,000 for typhoid, and so on through the list, which foots up at about a quarter of a million, then add it all together—and you will only have begun. You are to add to this the loss of productive energy of something like 700,000 people constantly ill for a whole year from tuberculosis and nearly half that number ill for sixty days from typhoid, and so on through the list, at $1.25 a day for each one. Then, ignoring the fact that the lives of many are worth thousands and hundreds of thousands of dollars a year, exclude the non-producers —women, children and dependents—by dividing the result by two. Then, still to be on the safe side, divide the result again by two, and the remaining figure, if translated into the coin of the realm and placed in our national treasury, would not only pay for a properly equipped national department of public health, but would, in addition, pay the current expenses of the army and navy, duplicate our armament on the seas, fortify our coasts, deepen our internal waterways, and, in ten years, would pay for the Panama Canal and wipe out our national debt.

Put this in the message to the people.

EXISTING PUBLIC HEALTH AGENCIES.

Of course, such a consummation in all its completeness is entirely beyond hope of realization. The figures are presented only to reduce to approximate concrete terms the enormity of present conditions—conditions which we know could be largely bettered through proper governmental agencies. Let it not be assumed that we are to-day entirely without such agencies—agencies that have been and are to-day doing excellent work.

But they are inadequate and, considered as a whole, scattered and unorganized and to that degree and in consequence of that fact are inefficient. The Public Health and Marine-Hospital Service is under the Treasury Department and, absurd as it may seem, the Secretary of the Treasury is the chief health officer of the United States. The Bureau of Vital Statistics is under the Department of Commerce and Labor. The Bureau of Chemistry, charged with the enforcement of the National Food and Drugs Act, and the Bureau of Animal Industry, charged with protecting the people against diseased meats, are under the Department of Agriculture. The national eleemosynary institutions, all of them public health agencies, are in the so-called Department of the Interior. Of course, the health of the army and navy is looked after by services organized within those respective departments.

There is to-day no service whatever specially organized to fight the plague of tuberculosis. No governmental agency is entrusted with the sanitation of interstate streams and the consequent protection of the people from typhoid due to these media of communication. There are no national laboratories for the solution of the yet hidden mysteries of contagion and infection. Other specific activities, such, for instance, as a campaign against disease-carrying insects, are not provided for, while the scattered agencies that we do possess are given such an unfortunate status in our scheme of government as to compromise their educational value and practically to deprive them of moral force.

Put these facts, all of them, in the message to the people.

MORE MEDICAL MEN FOR CONGRESS.

These facts, together with an intelligent and sympathetic appreciation of the nature of a great national public health service, the importance of establishing it, and, after establishing it, of fostering and maintaining it on a basis of highest practical efficiency, comprise a part, but only a part, of the many reasons why the medical profession should be more largely represented in the halls of Congress. When it is recalled that in the Sixtieth Congress there are but four physicians in the house of representatives and one in the senate, and when it is remembered, by way of comparison, that there are forty physicians in the Senate and fifty-six in the Chamber of Deputies in France, it becomes apparent that, of the two republics, our country is not deriving the benefit it should derive from the medical profession in the way of legislation. This becomes all the more apparent when the fact is taken into consideration that the present Congress, like the preceding congresses, is largely made up in both branches of members of the legal profession.

I mention this fact in no sense of reproach to that learned and honorable profession whose genius has largely fashioned our institutions and given shape and form to our laws—a profession that ought always to be and doubtless always will be largely represented in our legislative bodies. But we have now fallen on times when social and economic questions are clamoring for solution, when ethical problems are to be solved. For the accomplishment of these tasks it is of highest importance that our legislative bodies should be strengthened by a membership embracing more farmers and laborers, more physicians and ministers and educators, more business men, all unhampered with alliances, all fresh from the ranks of the people, all at liberty to serve the people. Then it will be that Congress will do the things that we pray for here to-night.

Put this in the message to the people.

THE POWER OF THE GOVERNMENT—A COUNCIL OF STATES.

The right of the national government, under the "welfare" and "interstate commerce" clauses of the constitution, to do many of these things is unquestioned. Yet there are many things that might better be done by the states. But the laws in the different states are generally inadequate and, whether inadequate or not, their complete lack of uniformity renders it impossible for the states to cooperate in the solution of a problem which, like the one under discussion, is coextensive with all the states.

Like laws for like conditions is the first requisite for the control for any national necessity by state legislation. And like laws by the states will probably not be enacted to any great extent until, under the initiative of the national government, the states shall send delegates to a representative body, a sort of council of states, which shall meet as a legislature or as Congress meets, in a session or sessions long enough to accomplish satisfactory results, and whose object shall be to formulate standard bills on various subjects and send them back to the legislatures for enactment. In this way, and in this way alone, can the states move with anything like satisfactory rapidity in meeting the crying demand for like laws for like conditions not only in regard to great sanitary problems such as I have been discussing, but in regard to many other problems that concern the economic and social welfare of all the people. This step should be taken without delay, for, even at the best, considerable time must elapse before results from this means can be realized.

But, aside from the special proposition that we are here discussing, some such step as I have outlined is imperatively demanded to conserve the states in their present integrity.

Put that in the message to the people.

THE PRESENT DUTY OF THE NATIONAL GOVERNMENT.

But what shall be done by the national government? I am not authorized to speak for the proposals which the President now has in contemplation. I do not feel that I am anticipating them in the least when I say that there ought to be but little absolutely new legislation undertaken as an initial step. The first thing that ought to be done is to assemble all existing public health agencies and coordinate them under a single head, leaving each agency to continue its activities under existing laws, supplementary laws to be enacted as they are afterward indicated. These agencies could be grouped into a single department and the title of the department so changed as to give titular recognition to the service without multiplying cabinet officers, to which latter action there seem to be sound executive objections.

Thus, if it should be found to be wise to make the Bureau of Vital Statistics the nucleus for the aggregated service, the name of the department in which it is located could be changed to that of "Department of Commerce, Labor and Public Health." Or, if it shall be deemed expedient to select the Department of the Interior, the name of the department should be changed to that of "Department of Education and Public Health," which, unlike the present title, would mean and stand for something distinctive among our great national interests.

Be that as it may, I insist, in the name of the medical profession, in the name of science, in the name of humanity, that a great governmental agency to conserve, as this one proposes to conserve, more lives, more homes, more property, and more money, than any other single agency in the whole plan of government, shall be accorded a status fully befitting its dignity and its worth.

And let this be the message to the people.

THE EPILEPTIC INSTITUTE COMPANY.

ANOTHER[1] FRAUDULENT CONCERN AND ITS SUPPRESSION BY THE POSTOFFICE DEPARTMENT.

Among the pseudo-medical institutions that have been investigated and closed through fraud orders by the Postoffice Department was a Cincinnati concern known as the Epileptic Institute. The following is an abstract of the report on this concern by R. P. Goodwin, Assistant Attorney General to the Postmaster General. It is based on an investigation conducted by Inspector George W. Sorenson and others:

This business consists of a medical treatment by mail of the disease of epilepsy. One Otto Kalmus, a resident of Cincinnati, commenced the business in the spring of 1903, under the name of the Epileptic Institute, and so it continued until July, 1907, when he incorporated it under the name of the Epileptic Institute Company, he continuing as president and general manager and principal owner. As a private address for patients who, it was explained, might not care to have it known that they were corresponding with an epileptic institute, use has been made of the name of Dr. H. J. Luecke, a physician connected until recently with the institute. While not with the institute since last November, Mr. Pyle and Dr. Schoenling explained at the hearing that by agreement with Dr. Luecke his name has continued to be used, and that the institute still receives that mail addressed to him which is also directed to Box 99 in the Cincinnati postoffice.

Until lately, communication with epileptics was obtained through advertisements in newspapers, chiefly those circulating among Germans and other foreigners. One of these advertisements, taken from the Dec. 13, 1905, issue of the *Home and Farmers' Companion*, a German agricultural paper published at Milwaukee, Wis., was furnished the inspector by Mr. John Edel, father of a former patient of this concern, and when translated reads as follows:

A BOOK IN REGARD TO FITS SENT FREE.

The Epileptic Institute in Cincinnati will send perfectly free of all cost to every reader who writes for it a valuable German Doctor book, containing many pictures, treating of the causes and cure of fits. It sets forth how and in what manner this terrible disease can be cured with safety, lastingly and for one's whole life, through a treatment altogether new. It is worth its weight in gold. It costs nothing and is securely packed, and will be sent gratis and post free. Order at once. Address Epileptic Institute, Box 99, Cincinnati, Ohio.

HOW PATIENTS ARE SNARED.

More recently the practice has obtained of purchasing the names and addresses of epileptics from, as the inspector says, "Other concerns that have obtained all of the money possible from such unfortunates without effecting a cure," and then mailing circulars to such persons, urging them to take treatment from the institute. Names have been so purchased, the inspector reports Mr. Kalmus and Dr. Schoeling informed him, from one Dr. Town of Fond du Lac, Wis., and from the firm The Guild Company of New York, N. Y. Mr. Kalmus identified for the inspector the circulars so sent by him to such persons soliciting the addressees to become patients of his institute. Samples of these circulars are among the papers. They are filled with extravagant and highly colored representations with reference to the unprecedented success of the institute's treatment, which it denominates the "Schönka" treatment, as a cure for epilepsy; and among other things it is represented that this treatment is original with the institute, and by its means the institute can successfully treat the heretofore-considered incurable disease, epilepsy, and in many cases effect a cure; that the treatment is something not known to medical science and is different from anything used by the profession in such cases; that the physicians of the institute are skilled and experienced specialists, and include "one of the foremost examining specialists in America." and that the case of each patient will be carefully considered, and in instances where a cure is not believed to be probable the patient will be so informed frankly, and also that the treatment is perfectly harmless.

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[1] Previous articles in this series were: "The Reinhardt Case Concluded: The End of a Long Fight for the Protection of the Public Against Imposition," October 3, page 1144; and "Medical Institutes: How They Entrap the Unwary Young—the Hibbard Case as an Illustration," October17, page 1330.

The first circular sent to prospective patients is accompanied by a booklet entitled "Causes and Cure of Epilepsy, by Otto Kalmus, Epileptic Institute, Cincinnati, Ohio, U. S. A., Copyright 1905 by Otto Kalmus. All Rights Reserved." and also by a symptom blank on which the prospective patient is requested to outline his condition and return it to the institute. This symptom blank, when so returned, is the basis of the institute's diagnosis of the case. Quoting from this circular booklet and symptom blank, such statements as the following are held forth as inducements for those afflicted with epilepsy to commence treatment with this institute:

> It gives us pleasure to acquaint you with the efficacy of our treatment for Epilepsy and its related afflictions. We are specialists confining our practice to the treatment of these derangements; ordinary physicians cannot cure these diseases and frankly admit it when honest with their patients.
>
> Years of untiring research and investigation of a great number of epileptic cases have at last resulted in [illegible] ul method, originated by us and known as the [illegible] T.
>
> This treatment is not a general thing; [illegible] ed to all patients alike; the best results are obtained only when it is graduated to meet the special requirements of each case and directed at the predisposing cause.
>
> No matter how hopeless the case may seem, no matter how many doctors and remedies have been tried in vain, do not hesitate to consult us. If we regard the case beyond our power we shall not hesitate to tell you so. Awaiting return of the symptoms blank filled out and assuring you prompt and careful attention, we remain,
>
> x x x
>
> Specialists in the treatment of Epilepsy, Neurasthenia and disorders of the nervous system.
>
> Our treatment will be directed at the cause of the derangement. It is a mild and safe, yet radically effective method of treatment, and by adapting it to the individuality of the case we can offer the strongest possible encouragement.
>
> *The Schönka Treatment.*
>
> This treatment, known as the Schönka Treatment, is not the discovery of a day. It is founded upon the study, discovery and scientific research that have come down through centuries of medical investigation and learning.
>
> While this treatment will perform its part in assisting nature to effect a cure better than any other treatment, it must be admitted that not every case is curable. It is safe to state, however, that no other method has been more successful in the treatment of this terrible disease than the Schönka Treatment.
>
> No epileptic, no matter how severe his trouble, should hesitate in taking the Schönka Treatment, for if his case is curable this treatment is the one he can depend on.
>
> It is safe to say that no other method of treatment of Epilepsy has a greater number of cures to its record. There is no reason why anyone should continue to suffer from epilepsy or permit a dear friend or relative to suffer from this most annoying disease, when the means of relief are so near at hand.

Considerable of the booklet is also given up to distressing accounts of epileptic seizures in public: the obvious object being thereby to frighten the epileptic into exaggerating the consequences of his own affliction and purchasing the treatment.

The questions asked by the symptom blank are quoted below in full, to show the meagerness of the information asked for and the basis for the evidence, hereafter referred to, that it is insufficient to enable a doctor to make an accurate and scientific diagnosis of the condition of the patient:

Name of patient.
Give full address.
Express office.
Age. Weight. Complexion.
Married. Any children?
Occupation.
How long have you had epilepsy?
Original cause?
Have you any other disease?
Ever masturbated?
Any of your relatives afflicted with Epilepsy?
Have parents been subject to alcoholism?
How often do attacks occur?
Day or night?
How long do they last?
Do you lose consciousness completely?
Do you lose control of the bladder or bowels?
What symptoms do you notice before attacks?
And afterwards?
Is your memory impaired?
Do you have headache?
Any heart trouble?
How is your appetite?
Is your digestion good?
Bowels regular or constipated?
How many pints of urine do you pass in 24 hours?
Is it light or dark in color?
Do you suffer from incontinence of urine?
Sleep well? Are you nervous? Anemic?
Any difficulty in breathing?
Have you ever had an operation?
Do you use tobacco or strong drink?

For Females Only.

At what age did you menstruation appear?
Is it regular scanty profuse painful?
Have your monthly changes any influence on the attacks?
Any ovarian trouble? Displacement of the uterus? Or other female complaint?

Should the person to whom this first letter should be sent fail to return the symptom blank, the practice is to send him or her a second circular, further urging the epileptic to return the symptom blank, and impressing on him or her the unparalleled success that the institute is having in treating this disease.

Should the epileptic still fail to reply, it is the practice of the institute to send him a third circular of much the same nature as the second. In this circular occurs this statement:

> You secure without cost the opinion on your case of one of the foremost examining specialists in America.

Should the epileptic still fail to reply, a further circular is sent him of much the same nature as the preceding, in which is the following statement:

> It is a common enough thing to hear of those who are called incurable among sufferers from epilepsy; in fact if we believe what the ordinary doctor says, most epileptics, if not all, are hopeless and beyond human help. This is an error. Medical science has long been powerless, but we have progressed and modern science has found a way by which some cases of epilepsy can really be cured.

HOW PATIENTS ARE TREATED.

If in consequence of any of these circulars the epileptic should return the symptom blank, it is the practice to mail him a circular, reading as follows:

> My Dear ———
>
> Your letter with description of your ——— case arrived with this morning's mail.
>
> This case appears to be serious and somewhat complicated and demands most careful attention. Before giving you a definite opinion I desire more time in order to give the case the very best personal attention possible. I shall make an accurate diagnosis and notify you whether a cure can be effected.
>
> I greatly regret this delay but if you desire an exhaustive examination, it is absolutely necessary. You will realize that it is for your own interest and I believe I owe my success to the careful attention I give to each patient.
>
> Remember that I am considering the case and that you will hear from me in about two days, as soon as I have thoroughly investigated every symptom of the complaint.
>
> Faithfully yours,
> THE EPILEPTIC INSTITUTE CO.,
> Per Medical Director.
>
> P. S.—If you have not received our booklet explaining CAUSES and CURE of EPILEPSY, please notify me so that I may send you a second copy free.

Two days after the above circular is mailed, the practice, as Mr. Kalmus explained to the inspector, is to mail the epileptic the following circular as a diagnosis:

> My Dear ———
>
> Since writing you a few days ago I have given your case earnest, careful and conscientious study.
>
> I find that your spells and seizures are of Reflex Origin; you are suffering from what is called in medical language "——— Epilepsy," which is a deviation from the more common form of the disease and with which it is so easily confounded. Although there has been no perceptible change in your condition for some time, the chances are that unless prompt and energetic treatment is begun, the trouble will become further complicated and may result in the gradual loss of the more important functions of your brain and spinal cord.
>
> Whatever your experience has been in the past, I believe I am justified in saying that medicines have done more harm than good, for the reason that they were intended to smother and suppress rather than help *cure* the disease.
>
> It is a well-known fact that many brother physicians find it difficult to relieve Epilepsy when confronted with a stubborn case, and it is a constant source of astonishment to them, that I am treating some of the severest cases with great success. You see there are no less than forty-eight different types of Epilepsy; in each of these forms the attacks originate differently, consequently every type requires a modified system of treatment, which again must be varied according to the existing complications, and you will easily understand why a regular physician who in his entire professional career encounters at most not more than a dozen cases, can not possibly be qualified to treat such cases like a specialist, who comes in contact with almost every type daily.
>
> I have studied your symptoms carefully, studying out each separately and collectively, with regard to the progress of your disease and relation to your future health and I have also compared them with those of a number of similar cases of Epilepsy to see what results have been accomplished, so that I am able to tell you whether or not I can conscientiously offer you any encouragement.
>
> After this thorough investigation and diagnosis, I can now honestly say that your case should readily *yield to my treatment*, if commenced at an early date and my advice closely followed. In a case so deep seated and complicated, ordinary treatment would be of no avail: it would be useless to merely try to suppress and diminish your attacks: the special features must be considered and treatment skillfully directed at the *cause of the disease* if it can be reached.

It is therefore my intention to treat not your symptoms alone, but I shall endeavor to eradicate every *trace*, manifestation and effect of the disease entirely from your system, thus preventing a return of the attacks. My long experience in cases of this character has proven this the only successful way.

Because of the complicated nature of your *trouble*, some special remedies have been required in order to bring about quick relief, and the treatment which I have formulated for you is composed of different remedies, each *having its own object* to accomplish in restoring you to health. The medicines I prescribe for my patients are in my opinion, positively the best that medical science has *garnered from the wisdom of ages and are perfectly harmless*; they are mild, soothing and healing, contain nothing *injurious and leave* no unpleasant after effects. They are made with the greatest care and with strictest attention to such details as accuracy, purity and reliability. *I do not use opium, Hemlock or other dangerous drugs* that merely smother the symptoms and for a time ward off the attacks. *That is* one way of treating epilepsy, but it is not my way.

In view of the fact that in your case there exists a marked tendency for the worst and inasmuch as I presume you desire relief, I have *personally prepared* this treatment for you, which is absolutely accurate, and perfectly adapted in every particular to the requirements of your case.

I do not desire to appear as unduly urgent in the matter, nor do I approve of *sending medicine* C. O. D., *yet knowing* what your trouble can lead to if neglected, I thought it best to put this treatment within your reach at once, and I have lost no time and shipped *this complete course of treatment to your* express office, where the agent will deliver it to you on receipt of $.... and express charges.

This may at first seem high to you, but when you stop to consider that the treatment consists of the very purest and highest grade of ingredients that can be procured in any part of the world, also the time and painstaking care which I have given to their exact preparation for your especial case, *then I feel confident that you will come to the conclusion that it is just as* cheap as I could make it consistently with my high reputation, which I could not afford to jeopardize with a cheap grade *of remedies that would not produce* the desired results. I trust you will appreciate this conscientious work and the deep personal interest which moves me to do the very best that lies within my power for you and that I have in preparing this treatment taken the same care that I would were you my nearest kin.

Everything is securely packed and free from observation. Full, simple and explicit *directions*, regulations for your diet, mode of living, etc., are enclosed in the package. Read them carefully, pay attention to the treatment and I assure you that in a short time the unmistakable *signs of a marked change for the better should* become manifest. With proper care and attention, good results are generally accomplished, where the treatment is promptly taken. *I shall want you to write me freely, that I may know how you are* progressing and counsel you until no longer in need of medical advice.

I have tried to point out to you as *clearly as possible*, the wise course *to take and* I can urge you with good conscience to take this important step and begin your treatment as soon as you can, for should you let this opportunity go by, it might be a source of regret as *long as you live.* Above all things let me appeal to that strongest of human instincts, nature's first law—self-preservation. Do your duty by yourself.

On the other hand, I want your case for treatment, knowing as I do what a splendid thing it would be for you to be rid of that demon epilepsy—how much better, livelier and brighter you would feel and how much more life would be worth living.

I *do not accept any case unless I have the necessary time to* devote to any one so afflicted, and for this reason there has been a little delay in fully replying to your letters, but in future your letters will be answered on the same day that I receive them.

As soon as the medicines are received, will you kindly date and return the enclosed post-card, that I may make a note of the time the treatment began, on my books.

With best wishes, I remain,

Sincerely your physician,
The Epileptic Institute Co., Inc.,
per Medical Director.

(A copy of the Booklet, "GUIDE FOR EPILEPTICS" is enclosed in *package*).

P. S.—The package is shipped as coming from my Secretary, O. Kalmus. No one through whose *hands it may* pass will know what it contains, or that it comes from a doctor. I do this to protect you from annoyance as I find that many of my patients wish to avoid publicity.

This diagnosis letter is a stock circular printed in similitude of typewriting, and when sent out as a diagnosis to patients is the same in all instances, with the exception of the name of the prospective patient, the particular variety of epilepsy from which he is diagnosed to be suffering, and the price of the medicine. So far as the inspector could find, the practice has been to send out this stock diagnosis letter in all instances. At the hearing, however, it was claimed, that in some instances, which it was admitted were few, a special letter was prepared, and that sometimes cases were rejected, in which event, of course, the diagnosis letter would not be sent. When the inspector called on the institute to furnish him with the names of rejected cases, Mr. Kalmus produced the names and addresses of five persons. As to the four who resided in the United States, the inspector addressed inquiries to their postmasters. In three cases the postmasters knew nothing about the parties, and in the *one* case where the postmaster could locate the patient he discovered the case had not been rejected, but had in fact been accepted and medicines been sent to the patient C.O.D. and the price later reduced to induce acceptance of the package. The inspector also had a practicing physician of Cincinnati make up a fictitious case of an incurable case of hereditary epilepsy, which he then mailed to the institute. In return he received in due course the regular stock diagnosis. The institute's failure to furnish any real cases of rejected patients and its acceptance of the inspector's test of an incurable case indicate that the occasion must be quite rare when the stock diagnosis letter quoted above is not used urging the epileptic to apply to the institution for treatment and holding before him strong encouragement for a cure.

At the same time that the above diagnosis is mailed there is sent to the epileptic by express a package of medicine, with the charges to be collected on delivery.

Should the prospective patient decline to immediately accept and pay for the C.O.D. package, the institute mails him or her a regular series of letters to induce the acceptance of the package. In one letter it is said that "these remedies are not cheap compounds, but a scientific treatment skillfully prepared at a great expenditure of time and trouble from rare and costly medicines, and under my personal supervision solely for this case"; that "what you want is a cure, and my experience tells, that a system like my own, aiming at permanency of results is really the one worthy of your attention. These so much-needed medicines are now within your reach and it rests entirely with you to decide. If you wait it may be forever too late; but if you do your part promptly, I do not hesitate to predict a grand success"; that "you know the sad consequences of delay and I honestly believe there is no such thing as fail in this case." In another of this series of letters the epileptic is told that the institute's previous experience in curing just such cases convinces it that its treatment faithfully used will prove for him, as it has for so many others, "a genuine success." Reduction of the price of the C.O.D. charge is also resorted to to induce the acceptance and commencement of the treatment. Likewise, after the treatment has once been commenced the institute has a regular series of letters to mail the patient to induce him to continue with the treatment. One of the statements made in this series of letters is: "I am entirely satisfied that the treatment which I have shipped will prove its worth and merit, and just now is the very best opportunity to take it, for if there is no further complication, a cure should certainly be effected within a reasonable length of time."

The time that this institute urges its patients to continue with the treatment is from a year to a year and a half, and longer, varying, of course, in different cases. Its charge for medicine ranges from about $3 to $9 a month, the variance depending, it seems, on the amount which the patient can be induced to pay.

WHAT THE SCHÖNKA TREATMENT IS.

The medical treatment is so glowingly advertised by this institute as a "cure" for epilepsy is based on the bromids. It is what is generally known as the bromid treatment except—and this is where the institute rests its claims for unusual and peculiar efficacy—that the drug adonis vernalis is used in conjunction with the bromids. In connection with the medical treatment, the usual and ordinary rules regarding diet, hygiene, etc., are also given.

Dr. Kebler informs me that what is in general known as the bromid treatment is in common use by the profession in treating epilepsy; that its physiologic action has been quite well defined; *that it is not a "cure"* for the disease, but acts simply as a sedative, and in this way tends to suppress the attacks; that medical science to-day has no drug treatment that will cure this disease; that this disease is among the most difficult and intractable of all diseases to treat, and that small per cent. of the more favorable cases *only* have been successfully treated, and that the success *in* these instances has been due most probably to the *condition of the patient* himself rather than to the medication.

[The report then goes on to quote from the *text-book* or other writings of a number of recognized *medical* authorities, statements showing the evil results *that may* follow the long-continued use of the bromids. For instance, H. A.

Hare ("Text-Book of Practical Therapeutics," 8th edi., Phila., 1900, p. 110) says:

> In other cases, evidence of mental aberration develops, the patient becoming irritable, morose, and even homicidal. Sometimes, however, we find melancholia and hallucinations, and, rarely, exalted ideas. In still others a dangerous suffocative bronchitis develops, the patient may become profoundly cachectic, or the condition may resemble typhoid fever.

Testimony to the same effect is quoted from the works of Drs. Roberts, Bartholow, S. O. L. Potter, Sir T. L. Brunton, H. C. Wood, Sr. and Jr., Edward N. Clarke, G. F. Butler, J. B. Yeo and R. W. Wilcox. Dr. W. T. Spratling, an authority on epilepsy and for many years superintendent of the Craig Colony for Epileptics, at Sonyea, N. Y., a state institution of recognized merit, is also quoted at great length. From his remarks the following are selected:

> The colony has ascertained through the analysis of nearly thirty of the more widely advertised patent nostrums for the "sure cure" of epilepsy that the bromid is the base of them all.
>
> Many of these quack remedies so glowingly set forth in the public prints, possess the power of suppressing the attack for a time, but it is suppression only, not cure, and the patients are always worse afterward.
>
> If pushed too far, death may supervene from acute bromid poisoning. This happened in the case of a boy of 12 years, whom I knew, whose parents gave him too frequent doses of a patent nostrum, the essential ingredient of which, as with the bulk of patent epileptic cures, was bromid of potassium
>
> It is a frequent experience to see patients brutalized by bromid, go months without fits, but with a loss of mental and physical activity.

The report further publishes the replies to a series of questions, made by several of the more prominent practicing physicians in response to a request by Dr. Kebler at the instigation of the assistant attorney general. On all points the replies are practically unanimous, and are to the effect that symptom blanks sent through the mail can alone not afford data for a reliable diagnosis of epilepsy; that the indiscriminate use of bromids is dangerous; that the bromid treatment is not a cure, but only a palliative, for epilepsy; that the respondents have no personal experience of a single case in which a cure of epilepsy could be attributed to the use of the bromids alone; that adonis vernalis can be beneficial at best in selected cases of certain types only; that its use is liable to be attended with danger; and that they know of no instance in which a cure of epilepsy could be attributed to its use.]

ADONIS VERNALIS: HOW IT CAME TO BE USED.

As regards the drug, adonis vernalis, which the institute claims is what gives its treatment the peculiar and unusual merit that is claimed for it, and makes it a "cure" where science has been unable to discover any curative medication for this disease, in addition to the statements of the physicians quoted above, Dr. Kebler advises me that this drug has been known to and used by the medical profession for some years as a heart stimulant, and was for a while experimented with somewhat in connection with bromids for the treatment of epilepsy, but was found to be without value, except possibly in a few cases where there is an affliction of the heart which might be contributory to the case. He states, however, that such cases could only be recognized by careful personal examination. Dr. Schoenling told me that the use of this drug was suggested by Mr. Kalmus when it was proposed to undertake this scheme; that he advised Mr. Kalmus that he did not believe it was of value; but that Mr. Kalmus insisted, and they therefore experimented with it and found it to be of value, and so made it a part of the treatment. He did not tell me what experiments were made or on whom, nor was anything given me on this point except Dr. Schoenling's general statement. Mr. Kalmus is not a physician, nor has he a medical education; and Dr. Schoenling could not advise me how it was that Mr. Kalmus got the idea of using this drug in this connection. I am unable to understand how it was that this drug was made a part of this treatment, except that it was to provide a point for argument in the event, which may have been foreseen, that the unusual claims of the institute for the new and wonderful cure for epilepsy, when in fact the bromids were to be the base of the treatment, should be challenged.

INADEQUACY OF THE SYMPTOM BLANK.

The blank used by the institute to secure the patient's symptoms for diagnosing his condition and preparing his treatment has been set forth above. In addition to the statements of the physicians quoted above, Dr. Kebler advises me that he does not consider it practicable by such a means and such information for a physician to make an accurate and scientific diagnosis; and Dr. Schoenling also was forced to admit that such was not practicable in all cases, although he claimed that such instances would be few. The meagerness of this blank, as a basis for an accurate and scientific diagnosis, is quite marked when it is compared with that used by the Craig Colony above referred to in considering applications for admission to that colony (see "Bulletin" of April 1, 1906). As the institute's treatment is supposed to be predicated on the information so obtained, if it is insufficient for a proper conception of the patient's condition, the good faith with which such cases are undertaken to be "cured" must certainly be questionable.

THE RESULTS OF THE TREATMENT.

With the papers in this case is correspondence had by the inspector with a number of persons who were patients of this institute. The inspector says he procured their names and addresses in 1905, and that after allowing the 12 to 18 months to elapse in which the company claims its treatment will effect a cure, he inquired of them the results of the treatment. Not one of the answers received says that a cure was effected. A number state they obtained while taking the treatment more or less relief in the suppression of the attacks or the reduction of their severity or frequency. In some instances the patient became so bad from the effects of the bromid that the treatment had to be discontinued and the patient confined in a state institution. The suppression of attacks or the reduction of their severity or frequency, which this correspondence indicates is a result of this treatment, is, I am informed by Dr. Kebler, the ordinary effect of bromids. This result, however, does not mean that the patient has been cured of the disease.

HOW TESTIMONIALS ARE OBTAINED AND THEIR VALUE.

As part of the advertising literature of the institute to secure patients, use has been made of what seemed to be reprints of letters written by patients to the institute speaking favorably of the results obtained in the cases of the writers. The inspector wrote to the postmasters of all of the persons whose testimonials were so used. The correspondence, which is among the papers in the case, discloses that practically all the testimonials, some twenty in number, were directly or indirectly solicited, probably while the patient was still taking the treatment and was under the favorable influence of the bromids. In one instance the patient was given free treatment for his testimonial, and in another instance a present of a silver watch was used as an inducement for the giving of the testimonial. The correspondence developed that the persons giving these testimonials had not been permanently cured of epilepsy, though in most instances the attacks were suppressed or their frequency or severity reduced while taking the treatment by the effect of the bromids. The postmasters also indicate in several instances that it is not certain whether the patient was actually afflicted with epilepsy or was suffering merely from hysteria. This institute, it would seem, although knowing that these testimonials were the product merely of the ordinary effect of the bromids, nevertheless circulated them for the purpose of misleading and deceiving the class of persons from whom it solicited business into believing them actual cases of cures effected by some new and wonderful treatment. As heretofore stated, this institute appeals for business principally among foreigners, and the letters of patients that have been submitted on the hearing indicate that as a rule the writers are persons of small education and experience and are of a class that probably could be easily deceived.

WHO AND WHAT THE "SKILLED SPECIALISTS" ARE.

One of the strong reasons urged for taking treatment by this institute on those persons whom it solicits to become its patients, is the representation that its patients have the benefit and advantage of having their cases handled by trained and skilled specialists, including one of the foremost examining specialists in America. As I am advised, there have been connected with this institute, since it commenced business in the spring of 1903, three physicians, namely, Dr. E. H. Schoenling, Dr. H. J. Leucke and Dr. A. L. Guertin. Dr. Schoenling stated at the hearing that for about the first six months, being half owner for the first three months, he attended to the medical end of the business for Mr. Kalmus, examining the symptom blank and diagnosing the case, prescribing the treatment and compounding it as well; that after he then left, Dr. Leucke did this work until December, 1907; and that since then he has again done the diagnosing and prescribing and Dr. Guertin has done the compounding. Dr. Schoenling graduated in 1900, when about 22 years of age, has made no special study of epilepsy, except in connection with this mail-order business, is not a member of any medical society, is not regarded in the profession as a specialist, and has most of the time since his graduation worked for $25 a week for a Dr. Charles Shafer of Cincinnati, who advertises in the public prints soliciting kidney and urinary and sexual cases. The salary paid him for his work at the institute, he says, has been less than $100 a month; and stated that he spent but a few hours each day at the institute and regarded it as a sort of a side line to his regular work with Dr. Shafer. Dr. Leucke graduated in 1901, went to this institute in 1903, has had no special preparation in epilepsy, does not consider himself a specialist, and was paid by the institute, the inspector says, only $15 a month. He is not a member of any medical society, his professional standing is doubtful, his regular practice is sexual and urinary diseases, and in December last his advertisements were excluded from the Cincinnati papers on the ground that they related to the sale of abortifacients and the performing of criminal operation in violation of the statutes of the United States. Dr. Guertin receives $35 a month for his services from the institute, works there but a few hours each day, is not a member of any medical society, his standing in the profession is questionable, he has little or no practice in Cincinnati, and was investigated by this department in 1905 for giving to a concern against which was pending a charge of fraud under these statutes, and against which a fraud order was later issued, a testimonial as to its medicine, which he later admitted to the department was done for a valuable consideration, and without reading the statement which he was paid to sign, and which he repudiated as untrue. He admits he is not a specialist. These are the self-styled specialists and "foremost examining specialists of America" of this institute. No comment is needed on these facts to show the utter falsity and fraudulency of the representations in question.

A "FRANK" OPINION.

Another representation used to secure patients is that in those instances where a cure is not believed to be probable, the party will be so informed frankly. The evidence heretofore referred to as regards the inability of the institute to sustain its claims as to the rejection of incurable cases, and the test case of the inspector in which the institute solicited with its regular stock diagnosis circular, holding forth strong encouragement for a complete cure, what Dr. Lewis of Cincinnati referred to above, and, Dr. Kebler states, represents an incurable case of hereditary epilepsy, prove, it seems to me, that this promise is not made in good faith or with the intention of observing it.

On the hearing it was ingeniously urged for the institute, in excuse of this course of action, that it could not be told with certainty in advance of treatment what would be the result in any specific case. The natural question, then, is, Why is such a promise made? And the argument also obviously involves an impeachment by the institute itself of the good faith of the assurances of an almost certain "cure" with which it induces patients to undertake the treatment.

HARMLESS MEDICINES.

Another of the representations is that the medicines used are "perfectly harmless" and "contain nothing injurious and leave no unpleasant after-effects." The dangerous nature of the medicines that are used has been previously shown; and it is to be remembered that this danger is increased by the fact that the treatment is administered without the personal examination or supervision of a physician. The jeopardy to the health, and even reason and life themselves, of the patients that is involved in the methods used by this institute renders this business, it seems to me, one of the more pernicious and reprehensible of the schemes to make money by fraud which infests the mails and against which the statutes here in question are directed.

COSTLY MEDICINES.

Another representation is that the medicines used are costly and rare. Dr. Kebler advises me that none of the drugs which the institute states it uses can be said to be costly or rare.

THE BASIS OF TREATMENT.

Another statement is that the treatment is "directed at the predisposing cause," that "it would be useless to merely try to suppress and diminish the attacks; the special features must be considered and treatment skillfully directed at the cause of the disease," etc. In fact, as shown by the treatment actually administered, the very thing is done that it is claimed will not be done, and the thing which it is claimed will be done is not done.

The institute has submitted on this hearing as proof that it uses a treatment that is effective and of benefit to its patients, a considerable number of letters and affidavits of persons who state they took treatment from this institute and were benefited to a greater or less extent by the suppression of the attacks or the reduction of their frequency or severity, and a few even think they have been cured. In some instances it is stated that the patients realize that a cure is uncertain, but that they are satisfied with what results they are experiencing and are willing to continue longer with the treatment. These statements are to be taken in connection with all the other circumstances of the case, especially the facts as to the treatment which is administered, the mode in which it is done, and the qualifications and experience of the physicians handling the cases. When it is known what is the medication that has been given these people, namely, the bromid treatment, the physiologic effect of which is well known to medical science, the significance of these statements is easily appreciated. Nothing is disclosed except the well-known effects of the bromids, namely, that as a sedative they tend to suppress the attacks. One fact to be borne in mind concerning these statements is that they were prepared by the institute and its attorney to meet the charges here presented, and then sent to the patients to subscribe to what was written if they would; also that the statements seem to be principally from patients who commenced more or less recently taking the treatment and were still taking it.

The institute has treated in all, I am informed, about 6,000 persons. The probability is that it has carefully scanned its records and with the 100 or so cases which it has submitted to me to consider has put forward its better foot. The institute has given these people certain drugs with certain known qualities, and it would be strange indeed if some of them did not experience the ordinary effect of such treatment and feel satisfied therewith. But it must be remembered that each of these persons whose statements are presented, as well as the other patients of the institute the results of the treatment in whose cases are not disclosed, were all solicited and urged to pay their money and take this treatment with strong encouragement for a complete and permanent cure, and with the assurance that they would be treated with a new treatment originated by this institute and unknown to the medical profession generally, and which had the power to work cures in cases where the profession was helpless, and with the further assurance that they would not be drugged "merely to smother symptoms and for a time ward off the attacks—that is one way of treating epilepsy, but it is not my way"; also that their cases would not be accepted unless it was felt they would be cured; also, that the physicians of the institute were specialists and included the foremost examining specialists of America; also, that the treatment was entirely harmless, as well as many other statements to which attention has been called. In fact, the institute had no warrant for its strong encouragement to the prospective patient, to expect a complete and permanent cure, and could not have offered such hopes in good faith; it did not have any new treatment, but simply proposed to use a treatment based on the bromids, which are not a "cure" for the disease: it was intended simply to smother the symptoms, and was not intended to use some other way so fondly distinguished from the "smothering" process; it was not proposed to frankly so advise those persons who it was not believed could be cured, but it was intended to urge the treatment on practically every one without discrimination: and the physicians of the institute were not specialists as pretended, nor did the staff of the institute include the foremost examining specialists of America; but, in truth, the physicians of the institute were young graduates and men without standing in their profession and following questionable lines of practice, and were men employed at what would seem to be about as small salaries as any at which the required service could be obtained; and the treatment intended to be administered was not entirely harmless, but was of a nature that might wreck the health and even reason and life themselves of the patient. Therefore, while in what may be said to be a comparatively few instances, as the institute has not disclosed its records in the great number of its cases, patients have experienced from the treatment what is the ordinary effect of the bromids and may feel satisfied with so much, yet I feel it is not true that the other and the greater share of the patrons of the institute have not been deliberately deluded with false hopes and representations, and defrauded of their money which they probably would not have paid if aware of the facts, in addition to having their health, reason and life endangered. The answer to the claim that certain of the patrons are satisfied with what benefit they do get from the treatment, is that in that event were the business conducted with an honest purpose there should be no occasion for promising anything more. The satisfaction of the few is not justification for the defrauding of the many. Furthermore, this scarcely is the case in which the patients are sufficiently familiar with the facts to be able to determine whether they should be satisfied or not, and this is especially so of the patient who has commenced the treatment but comparatively recently, and particularly among the class of people among whom it appears the most of the business of the institute is solicited.

CRIMINAL PROSECUTION INSTITUTED.

After the fraud order had been issued against this concern, its promotor, Otto Kalmus, at once attempted to evade the effects of the order by starting the same scheme under another name—the Hamilton Dispensary. That his operations under the new title were extensive is evident from the fact that we received letters and "diagnosis blanks" sent out by this rechristened fraud from even as far away as the Philippine Islands.

The postoffice authorities again took up the matter and not only was a fraud order against the Epileptic Institute Company extended to cover the mail addressed to the Hamilton Company, but criminal proceedings were instituted against Kalmus. We learn from S. T. McPherson of Cincinnati, United States District Attorney, that Kalmus was convicted October 22 of using the mails in furtherance of a scheme to defraud. A motion for a new trial was made, which the court has under advisement. Meantime the defendant is out on $1,500 bail.

It is earnestly to be desired that the outcome of the case will be such that Mr. Kalmus, after enjoying a well-deserved rest at the expense of the United States, will go into a more honorable business than that of preying on epileptics.

A Proprietary Booze Miracle.—A brewery advertises an alleged malt liquor as a tonic, and makes the astounding statement, *apropos* of the thin man, whom it urges to take a glass with his meals, that "it will send red blood through his veins." Remarkable!

Clinical Notes

TREATMENT OF TRAUMATIC RUPTURE OF THE URETHRA.*

REXWALD BROWN, M.D.
SANTA BARBARA, CALIF.

Following severe traumatic rupture of the urethra, posterior to the peno-scrotal junction, unless immediate treatment be instituted, a grave condition presents, appalling even to the medical attendant. Tissues adjacent to and even far removed, relatively speaking, from the severed urethral ends become edematous and blackened, filled with extravasating blood and urine.

Death confronts the patient if exit is not found at once for the retained and decomposing urine. The physician realizes this all too well, and in his haste to find passageway for the locked-up waters he inserts into the urethra the rubber or metal catheter and attempts to force the same into the bladder.

Nor, perhaps, is the physician to be blamed for undertaking this seemingly logical maneuver. There is in text-books devoted to genito-urinary surgery a lack of clear detail concerning the management of this serious injury, and in nearly all to which I have access the wording of the paragraphs on the treatment is such that catheterization is given prominent attention—in some it is even recommended. This is decidedly wrong, and the inferences from such teaching have undoubtedly in the past been responsible for deaths.

The following rule should be universally observed: Whenever there is good reason to suspect, or there is known positively to be, a rupture of the urethra, a catheter or sound under no circumstances should be introduced into the urethra as a diagnostic or as a therapeutic measure.

There is a reason for this; nor is it that false passages may be produced through the edematous and infiltrated tissue. This accident, always possible in this condition, is serious in itself. The more important reason, however, is that the passage of a catheter subjects the injured tissues to the insult of infection, and infection in this devitalized area can in a few short hours easily turn the patient's chances from a practically certain recovery under proper treatment to the edge of death.

Why does cellulitis here so speedily depress the scales? Because the infection is under constantly increasing tension; the extravasating urine and blood and rapidly forming pus find no runways to the surface from the confines of the slowly yielding layers of fascia and skin. Tissue destruction and septic thrombus formation in the venous plexuses are very rapid, and toxic absorption increases proportionately with the tension. Toxemia, pyemia, septicemia, may, therefore, be the result of the passing of a catheter when traumatic rupture of the urethra is present.

But it will be said that the passing of a sterile catheter under the most aseptic precautions can not possibly be responsible for so disastrous a train of consequences. Yet it can—the trauma inflicted by the passage of a catheter along the urethra increases the virulence of, or makes virulent, the micro-organisms which have their habitat in the urethra. Among these are diphtheria bacilli, streptobacilli, and even streptococci. They are carried along to the area of laceration. What inviting pastures

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*Read before the Pacific Association of Railway Surgeons, San Francisco, Aug. 29, 1908.

LUMBAR APPENDICECTOMY.*

CHARLES G. LEVISON, M.D.
President of the San Francisco County Medical Society, 1908; Chief of the Surgical Service of the San Francisco Polyclinic; Visiting Surgeon to the Mount Zion, California, Women's and City and County Hospitals.
SAN FRANCISCO.

The following paper was suggested to me by Legeu's contribution[1] on "Lumbar Appendicectomy." This article referred to the removal of the appendix in the course of an operation on the kidney, such as Edebohls[2] has already advocated, while the operation about to be described was performed for the purpose of reaching an appendix acutely inflamed, which had been diagnosed as being in the retrocecal position.

When the abdomen is opened during an attack of acute appendicitis, it is not infrequent that the search *for the affected organ is futile. As this is not a new or* a unique experience to many operators, it is my belief that, in cases such as these, the appendix might be discovered if sufficient care were taken to determine its position previous to operation.

Localization can not be accomplished unless the so-called "McBurney's point" be ignored to a certain degree, because involvement of the appendix can be diagnosed by means of this point only when the appendix is found within this area.

ILLUSTRATIVE CASES.

A case which bears out the above statement occurred in my experience recently. An operation on a young woman revealed a gangrenous appendix situated in the pelvis. The necrotic organ had produced an abscess with consequent bowel obstruction. The case presented many of the signs of an acute appendicitis, but, as McBurney's point was not painful, the diagnosis of appendicitis was not made by the attending physician. As the point of tenderness was low, occupying the brim of the pelvis, and as the examination per vaginam revealed some thickening too high up to be tubal, I made the diagnosis of appendicitis. This was confirmed at operation. The incision at the operation was made quite low. The appendix was consequently found with much greater ease than would have been the case had the abdominal wall been incised in the usual position.

The condition which first attracted my attention to this subject occurred in the following case:

Patient.—An individual who had never been sick prior to his present illness, at which time he was seized with a violent abdominal pain. He was given a cathartic and on the following day was fairly comfortable; temperature 100.6; pulse 90. On the day following he was not ill but there was some abdominal tenderness on pressure. He was brought into the hospital the following morning by his family physician, with a temperature of 102.4; pulse 96. He had no pain on movement, but had some tenderness to pressure.

Examination.—I saw the patient at 3 o'clock in the afternoon; temperature 102; pulse 100; leucocytes 18,000, 80 per cent. of which were polynuclear. When questioned as to whether he had pain he answered that he had none. He had no pain on movement, and was able to turn in bed without discomfort. Abdominal examination revealed no tenderness whatever at McBurney's point or in the right iliac region. Deep pressure made in the region of the anterior superior spine (lumbar region) caused the patient considerable pain; at this point there was marked rigidity. Dulness in the right flank corresponded to a continuation of the mid-axillary line. The dulness, while it was not continuous with the liver dulness, occupied the right lumbar region almost completely. The tympany of the colon could be elicited so that the dulness was tympanitically dull, not absolute. There was no jaundice present.

Diagnosis.—The diagnosis of retrocolic appendix was made to the exclusion of gall-bladder condition; as the urine was normal, a perinephritic abscess was ruled out. This conclusion was reached in consideration of the tympanitic area between the dulness and the liver, despite the fact that the appendix region did not appear to be involved.

Operation.—An incision four inches long was made two finger-breadths above the crest of the ilium extending to one inch in front of the anterior spine. The gridiron operation was performed with more difficulty than is experienced in front on account of the thick bellies of the abdominal muscles which were encountered. There was no trace of exudate or fluid found within the abdomen when the peritoneal cavity was *opened. Palpation of the colon, in front and behind, did not* reveal the presence of the appendix and it was only by strong retraction of the colon forward that its posterior surface was exposed and with it a gangrenous appendix which extended from the anterior superior spine to the under surface of the liver. The appendix was gangrenous from its base to its extreme tip; there was no induration and nothing to indicate the presence of the appendix, which would never have been discovered if it had not been exposed to direct view. It was removed by ligation.

Postoperative History.—Convalescence was without particular incident with the exception of the formation of a fecal fistula, which closed within three weeks.

That the localization of the appendix is not easy of accomplishment and that it is open to error was shown by the history of the following case, which came under my observation during the same week that the previous case was observed:

Patient.—A woman who had never been sick was taken ill the day before with severe abdominal pain. She gave no history of gallstone disease. The conjunctivæ were slightly icteric. The physician in charge reported a slight dulness in the flank and some tenderness on pressure in the iliac region; temperature 101; pulse 100.

Examination.—The day following the patient was brought into the hospital with a temperature of 101.2 and a leucocyte count of 30,000, of which 90 per cent. were polynuclear. Dulness extended quite up to the liver and down to the crest of the ilium, filling the right flank. Here tenderness to pressure was pronounced. There was no trouble in the region of McBurney.

Diagnosis.—With the experience of the previous case it was felt that a similar condition was present but gall-bladder disease could not be ruled out because of the icterus and on account of the dulness which extended upwards and was continuous with the liver dulness. The existing jaundice should have attracted more of our attention to the gall bladder than it really did, but in view of our previous experience, a diagnosis of retrocolic appendix was made with due consideration of gall-bladder disease. The gall bladder was not seriously considered, as the anatomic situation of the dulness was not that of the gall bladder but was well away from the costal angle.

Operation.—Lumbar operation for a retrocecal appendix was performed, but at the upper end of the incision a distended gall bladder was seen. The incision was closed at once and the abdomen was opened by a right rectus incision. A large, thick distended gall bladder was exposed. The ducts, which were covered with exudate, were adherent to the intestines. The gall bladder was full of stones. It also contained a partially decolorized fluid. The operation was performed in the way usual for acute cholecystitis.

Convalescence from the operation was *uneventful.*

The history of this case is quoted for the purpose of showing how difficult at times the diagnosis becomes when this localization is attempted. It is believed, how-

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[*] Presented before the Alameda County Medical Society, July 21, 1908.

[1] Presse méd., 1908, No. 43.

[2] Ann. Surg., 1902, p. 137.

ever, that if the jaundice had been more seriously considered, the process would have been recognized.

RECAPITULATION.

The rule to be observed in the surgery of the appendix is, to make the incision correspond to the position of this organ. It can frequently be localized if the situation of the exudate and the rigidity are kept in mind.

When the exudate is situated in the loin, a diagnosis of a retrocecal appendix should be made, excluding, as far as possible, perinephritic abscess and gall-bladder disease. If low down, the differentiation from pelvic disease should be made. Naturally the classic form must first be thought of.

On looking over the literature, I find that this subject, strange to say, has been almost entirely overlooked.

About thirteen years ago, at a time when it was considered good surgery to hunt for the appendix, despite the condition of the patient, my practice was to discontinue the search as soon as I realized that this could not be properly and successfully accomplished. Largely through the influence of J. B. Murphy, this practice has now been adopted, so that to-day it is an accepted principle that this search should be discontinued under the conditions indicated. It is my conviction that, in those cases in which the appendix is not discovered, the offending organ is situated in the retrocecal space. With the appendix in this position and the abscess incised in the usual manner, either through the Lennander or McBurney incision, the pus is evacuated, but the appendix is not discovered because it is practically extraperitoneal. On several occasions in my experience, when the appendix has not been found at the operation and when a recurrence has taken place, the diseased appendix at operation, in each instance, has been found in the retrocecal position and then only after a long and tedious search. I fancy similar experiences have occurred to many surgeons.

616 Union Square Building.

CASES PROBABLY MYCOTIC, BUT NOT EVIDENTLY DUE TO BLASTOMYCES.

M. B. HUTCHINS, M.D.
ATLANTA, GA.

Case 1.—*Patient.*—Male, aged 51. He had a rounded nodule in the middle of his right cheek three or four years before the date of the examination referred to below. I saw him once at this time. Later he was subjected to various escharotic treatments. When he returned to me he brought from a competent pathologist the *simple diagnosis* of "cancer." Within a short time I requested that he get the pathologist to make another examination microscopically. This was refused because the latter believed his original diagnosis correct.

Examination.—January, 1902. The disease occupied an area from the right zygoma over the lower one-third of right *cheek and chin*, as well as slightly below inferior maxillary border and a little under the ear. The unbroken parts were livid, swollen, the surface partially cicatricial, partially open and irregular. In the raw surface and in the borders were pits from the size of the finger-tip to real subcutaneous cavities from which could be removed a most offensive white granular substance, like fresh butter grains, and pus. The odor was that of intensely sour buttermilk, which permeated the office for an hour after the removal of the dressings. There were no fine verrucous growths but some fleshy papillomata. The pus and white substance eventually burrowed in the subcutaneous tissues of the right temporal region over an inch. There was no carcinomatous hardness and no metastasis to glands. The striking features of this case were the white granules in the pits and cavities, the intense *secondary* pus infection, and the offensive sour buttermilk odor. Microscopic examination of granules and pus in caustic potash solution showed structures resembling fat cells from which the oil had been dissolved.

Treatment.—X-rays were employed for the greater part of a year, with some benefit, but there was final extension of the trouble. Iodid of potassium, even in large doses, had little, if any, favorable effect.

Clinical Course.—The patient was finally reported ill of pneumonia. I did not see him. He possibly died of extension of the disease to the right lung. Cultures could not be made and further microscopic examination was not to be had. There was no actinomycosis.

Summary.—The clinical course of this case was not that of blastomycosis or of any form of cancer. The large pits and cavities containing and forming white granules and abundant pus were unique. The edges were swollen, hyperplastic, livid —often showing soft-topped abscesses. (Compare with Case 2.). At times healing would occur in parts, with scars resembling those from an escharotic, or fire, but the scar tissue had no permanence, new abscesses occurring.

Case 2.—*Patient.*—Male, farmer, aged 36. About a year before the date of the examination mentioned below, he had picked a scaly papular lesion on the carmine border of the lower lip. He soon developed symptoms as at present. He then used a concentrated infusion of the leaves of the oxalis (sheep sorrel) and other caustics, destroying all but those rounded, retracted "hillocks" of the lower lip. The disease occurred below, with redness and swelling involving the whole chin and causing some enlargement of the submental glands. Each half of the chin had previously shown more marked involvement and later the lesion to the left of the left oral angle developed.

Examination.—May, 1905. There were four distinct areas, one in the sublabial fossa, one each side of the chin, one in the left oral angle. When the patient was examined first, the lower lip, down to the roots of the teeth, was destroyed save rounded remnants. On the base of the lip and on the upper chin were three semi-solid lesions; the cavities large and papillomatous, with small holes in the skin over them; the lesions full of pus and grayish-yellow granules. Just to the left of, almost in the left oral angle, lying between skin and mucous membrane was an unbroken lesion the size of a finger-tip. Incision exposed pus mixed with a quantity of granules somewhat like those from a sebaceous cyst, but firmer, slightly resembling small fish-roe. All the diseased parts were very sensitive. There was no impairment of general health.

Treatment and Clinical Course.—The lesion was cleansed with hydrogen peroxid and dressed with 1/1000 mercuric chlorid gauze, b. i. d. Granules and pus rapidly reappeared. A saturated solution of potassium iodid was given up to 47 drops t. i. d., and some iodism. No effect was produced on the disease. A sour odor was constantly present in this case, but not so intense as in Case 1. After a few days, the chin lesions having been well incised, the cleansing was followed, once a day, with application of 95 per cent. carbolic acid, not controlled by alcohol. This had only a little effect on the formation of granules and pus or the subcutaneous burrowing. The soft papillomata in the lesions were exceedingly vascular, bleeding freely on injury. They resembled somewhat the columnæ carnæ of the heart. A few seemed to have been blanched, forming at times whitish, coral-like clumps, but very vascular at attachment. *It is possible* that these were infiltrated with the disease bodies. There was a marked tendency of the chin infection to burrow, forming sinuses under the skin. *In these*, concealed, the white granules multiplied and pus formation continued in spite of cleansing and dressing twice a day. Nearly a month after the beginning of the treatment a new point appeared in the mucous membrane of the right lip remnant, as a small, discrete, whitish erosion from which a quantity of the seedlike grains were pressed, not mixed with pus. This formed a sinus a third of an inch deep. When the patient reached 66 m. saturated solution of potassium iodid t. i. d. with no benefit, the drug was stopped. He had fourteen *x*-ray treatments, getting primary reaction; a few beard hairs loosened. Dr. Hynds reported that he was unable to find or cultivate any growth, and saw nothing resembling blastomyces or actinomyces. When the patient was last seen after eight days' absence the verdict was reached that no treatment had been of any avail. The patient was reported to have died after rapidly increasing emaciation and gradual extension of the infection of the chin downward to the muscles of the throat and integument at the front, which left the bones bare. Death occurred about ten months after the date of first examination. Neither in this case nor in Case 1 was there any involvement of bone or periosteum.

This paper was begun nearly two years ago. The untimely death of Dr. R. W. Hynds, who did the microscopic work, together with my inability to obtain any notes of his observations, has embarrrassed me in attempting a proper report. I delayed finishing the paper in the hope, thus far futile, of getting another of those anomalous cases characterized by "granules and sour buttermilk odor." Clinically these cases bore not the slightest resemblance to the blastomycotic cases or to any of the published records of systemic, deep tissue and diffuse blastomycosis. I regret the absence of opportunity to have full histology and cultural work done on these cases, and my failure, at the time, sufficiently to appreciate them.

Characteristics were white granules, often the only contents of the cysts, deep subcutaneous abscesses, with inflammatory swelling around, hard and red, becoming darker and softer; and the strikingly peculiar odor. Should another case be found it would be of interest to investigate as to the probable presence and effect of the *Bacillus acidi lactici.*

Epithelioma, carcinoma, actinomycosis, tuberculosis, syphilis and typical blastomycosis were not suggested by any of the symptoms. If the cases were blastomycotic they were essentially as different from typical blastomycosis as granular, plus cutaneous, tuberculosis is from tuberculosis cutis verrucosa. This comparison offers the only basis for an effort to harmonize the cases I have reported with the descriptions of typical blastomycosis.

I am indebted to Dr. Oliver H. Ormsby, of Chicago, for references and suggestions.

1015 Century Building.

BIRTH OF QUADRUPLETS.

HENRY A. NAVE, M.D.

ARGENTINE, KANS.

Mother's History.—Mrs. L. C. T., aged 35, American, weight 112 pounds, height 4 ft. 6 in., married twelve years, had had seven children, of whom four are still living; two were born prematurely at six and seven months respectively, and one died at the age of three months, cause of death unknown.

Present Labor.—I was called to attend the patient July 19, at 1:30 a. m. The os and cervix were well dilated and the amniotic sac was protruding. Within ten minutes the first child, a boy, was born: it seemed small, and on tying the cord I was surprised to find four umbilical cords braided together. Within fifteen minutes another boy was born, thirty minutes later a girl, half hour later another boy.

Description of Placentas.—There were two placentas, one with three cords and the other with one. They were delivered in a macerated condition.

The Children.—The length and weight of the children were as follows: First child, length 9 inches, weight about 4½ lbs.; second, length 8¾ inches, weight about 3½ lbs.; third length 8½ inches, weight about 2½ lbs.; fourth, length 8 inches, weight about 2 lbs. In the case of the child delivered last it was necessary to resort to artificial respiration for a few minutes. The others breathed naturally. The children seemed normally developed, though small. The second child began to nurse on the second day and was apparently the only one able to swallow. The first-born child lived 24 hours; the second, 4 days; the third, 8 hours, and the fourth, 18 hours.

The mother's convalescence was uneventful except for a slight rise in temperature for a few days immediately succeeding delivery.

Therapeutics

METRIC SYSTEM VS. APOTHECARIES SYSTEM.

To the Editor:—In looking over the pages of The Journal devoted to therapeutics, I have frequently been surprised at the disparity existing between the apothecaries and the metric system when both were given.

In many cases the equivalents are not even approximately correct and are extremely annoying to those who employ the metric system exclusively as well as puzzling to those who occasionally use both.

In the issue of Oct. 14, 1908, pages 1336-37, twelve formulas are given in which eleven are not even approximately correct and are so strikingly contradictory in the equivalent values given that a plea for a closer approximation of values seems justified.

Despite its many so-called objectionable features, there are many physicians who employ the metric system exclusively in prescribing; therefore, this loose and careless manner of giving approximate values is pernicious in its effect by encouraging slovenly methods in prescribing, and not only tends to confuse the physician but subjects the patient to extra hazard from errors in prescribing.

If we are to have equivalents given, let us have them at least approximately correct. F. A. Carmichael.

The editor of the Department of Therapeutics is glad that Dr. Carmichael has brought up this subject for discussion. In the first place, the doctor does not quite understand the method with which the prescriptions which he criticises are written. If there were a stone wall between the prescriptions written in the metric system and the prescriptions written in the old system they could not be farther dissociated than they are intended now to be by the word "or." If the amounts were intended to be equivalent the sign of equality would be used. The hypothetic stone wall is represented by the word "or." This saves writing the ingredients of the prescriptions twice. It would, of course, be difficult for a devotee of the old system to attempt to convert his thoughts and doses from that system, in any given prescription, into the metric system directly opposite.

The prescriptions in both systems are written, i. e., the liquid ones, with the idea that the dose should be represented by a teaspoonful. It is foolish to consider that a fluidram is a teaspoonful, or that the metric system equivalent to a fluidram, 4 c.c., is a teaspoonful, because they are not. It should be recognized that a teaspoonful represents 5 c.c., considerably more than a fluidram, and that by the use of the teaspoon as a measure of dosage no three fluid-ounce mixture will ever represent twenty-four doses (as it does twenty-four fluidrams), but approximately eighteen doses, of 5 c.c. each, viz.: the three ounces would represent about 90 c.c. of fluid.

The criticism is naturally then made that we should insist on the use of medicine glasses graduated to fluidrams or graduated to cubic centimeters. While this is *theoretically correct*, few patients will obtain such graduated medicine glasses and take their medicine from them; hence the physician who always prescribes doses graded to 4 c.c. or to a fluidram will find that to the majority of his patients he is really administering a teaspoonful, or 5 c.c., or a fourth more than a fluidram. In other words, the majority of his patients would receive a larger dose than he intended.

The prescriptions written in the Department of Therapeutics are not aimed to instruct any physician how to transpose one system into the other. They are intended to be entirely dissociated, so that the men who write in the metric system should use the metric prescriptions if they approve of them, and the men who write in the old system should use the old system prescriptions if they approve of them. For instance, in the metric system, if the tincture of digitalis is ordered, 25 c.c. would be a correct and sensible amount based on the metric system; 30 c.c. or a fluid ounce is really absurd. If, on the other hand, it is for a devotee of the old system, then one fluid ounce is ordered. Naturally these two prescriptions differ by 5 c.c. or 1¼ fluidrams (or really more, as 31 c.c. is perhaps nearer the exact equivalent of 1 fluid ounce). However, when the dose is put down as ten drops, in water, three times a day, after meals, it does not make a particle of difference whether those drops are dropped from a bottle containing 25 c.c. or 30 c.c.

The criticism will then be made that a drop or a series of drops is exceedingly inaccurate dosage, that the dose should be measured in minim glasses or in glasses graduated to fractions of a cubic centimeter. This, too, is theoretically correct, but, except in institutions, practically useless. Not many of our patients will obtain such graduated glasses. Also the variation of where they will read, the demarkation between too much and too little in graduated glasses, in other words, as to where the meniscus of the fluid is, is such that variations will constantly occur of from one to three drops. Also when we recognize the variations in the strength of the different preparations, especially of tincture of digitalis, the dose can never be graded with measuring-glass accuracy. The dose is always enough for the object to be attained. In other words, if ten drops dropped by this patient or nurse from this particular bottle of this particular strength of tincture of digitalis is not sufficient, more must be given; if too much, less should be given.

Also the subject of exact scientific dosage becomes ridiculously absurd and hopelessly hopeless when we scientifically figure out the exact dose of a drug that we wish a patient to receive and the number of doses to order, and then find that more than frequently, unless the drug is a poison or the preparation is exceedingly strong, the pharmacist will not even bother to measure that preparation if it is a liquid, but will pour into his one, two, three or four-ounce bottle what he thinks is right, and our scientific mental processes are all useless.

Take, for instance, a simple desire on the part of the physician to put a fluidram of syrup of ipecac into a three-ounce cough mixture, or 5 c.c. of syrup of ipecac into a 100 c.c. cough mixture, just for the action of the small dose of ipecac on the bronchial mucous membrane, and he is astonished to find that time after time this supposed little bit of a dose of ipecac is nauseating his patient. It is easy to conceive what has happened when one works a short time behind a drug-store prescription counter. Also the variations in strength of the same preparation of the same drug bought at different drug stores makes the accurate measure of the final dose from the bottle absolutely useless. The dose of a drug or of a given preparation is always *enough, and enough can only be determined by the action of the first few doses.*

To go back to Dr. Carmichael's question of equivalents: Nothing has defeated the adoption of the metric system so much as has the endeavor to compute equivalents. The irregular metric figures of the physician who *thinks* in the old system and *writes* in the metric system is almost pitiful. If he wishes to write a prescription in the metric system, say for the sulphate of quinin, he should forget that a grain is 0.065 gram, but know that a small dose of quinin is 0.05 gram, and he may multiply this to what he wishes to give, whether 0.10, 0·15 or 0.20 gram. In other words, a dose of a drug that has a range of from 1 to 10 grains can not disturb a patient much by the variation of 0.1 or 0.015 gram. If one wishes to acquire the ability to write prescriptions in the metric system he should think of the metric system as dollars, cents and mills, and even forget dimes. If a dose of any drug is 10 grains, the range of dose is almost surely from much less to much more; consequently such a dose in the metric system would be 0.50 gram or 0.75 gram. If the dose of a liquid preparation is 1 or 2 fluidrams it certainly is also 5 cubic centimeters. If a dose is 1/60 of a grain it is, of course, simply 0.001 gram.

To reiterate, it is desired that all readers of the Department of Therapeutics should remember that there is no attempt at exact equivalents between prescriptions in the metric system and the same prescriptions in the old system, but each prescription in each system is intended to be absolutely correct pharmacally, chemically and therapeutically.

JOINT TUBERCULOSIS.

It can not be too frequently urged that a persistent disturbance in a joint should be suspected of a tuberculous cause. *If the trouble is tuberculous the sooner* the part is immobilized and the patient relieved of the depressing influence of pain and then given the best food and the most fresh, clean air treatment possible, the quicker his opsonic index rises and his ability to stay the disease is developed. In other words, the prognosis is good if the joint is properly treated early. If the diagnosis of the trouble in the joint is doubtful, the ocular tuberculin reaction may be tried, or possibly the von Pirquet cutaneous tuberculin reaction may prove as valuable in joint tuberculosis as it seems to be in early pulmonary tuberculosis. Chronic pain is so depressant to the nervous system, to the general nutrition, and to the circulation, as to prevent the normal healing power of the system. Consequently pain in a tuberculous joint must be stopped.

Dr. Edward H. Ochsner, Chicago (*Journal of the Michigan State Medical Society*, August, 1908), emphasizes the necessity of not only immobilizing a tuberculous joint, but of placing the muscles surrounding the joint "in accurate equilibrium," and contraction of the opposing muscles will not be caused and the pain will be diminished or prevented. With such care, morphin or other sedatives will not be needed (and no drug will prevent pain that will not also inhibit general nutrition).

Pain having been thus inhibited, the next aim should be to prevent secondary infection, and Ochsner states that fully 98 per cent. of patients with tuberculosis of the spine can be permanently cured if secondary infection is prevented. A cold abscess or a tuberculous breakdown Ochsner does not think should be classed as pus in the ordinary sense, and consequently should not always be evacuated; but if evacuated, every possible precaution should be taken to avoid secondary infection. A local tuberculous abscess is ordinarily a self-limited disease, but when complicated with secondary infection it becomes a serious malady. If secondary infection occurs, severer operations of removing sinuses, etc., must not be needlessly undertaken, as the patient gets well or improves from the ability of his blood serum to fight the toxins of the tubercle bacillus. An aid to his fighting power is furnished by injections of tuberculin after the method of Wright, but the proper dose and the proper time for such injections are determined by the patient's opsonic index. If the injection is administered at the wrong time his opsonic index will be lowered instead of raised. After any great depressing influence on the patient, as after a period "of poor food, poor ventilation, severe chilling, or the shock from an operation, or even when the patient is suffering from as simple a thing as obstinate constipation, it is not the time to inject tuberculin." This should be postponed until a time when the patient is beginning to rally from such depressing influences.

When there is secondary infection the prognosis, Ochsner says, has been much improved by not performing too serious operations, by using tuberculin injections, as indicated by a careful study of the opsonic index, and by treating the tuberculous sinuses by Dr. Emil Beck's method. Dr. Beck advises injecting into the tuberculous sinuses, "every two to four days, a sterile bismuth paste consisting of thirty parts of bismuth and sixty parts of vaselin at a temperature of 110 F." If after repeating this injection three or four times at the above intervals the sinus has not stopped discharging, it should then be injected "with a paste consisting of thirty parts of bismuth, sixty parts of vaselin, five parts of white wax, five parts of soft paraffin and one part" of the official liquor formaldehyd. Ochsner says that by these methods patients are not only more frequently cured, but the joints more frequently remain mobile. In other words, ankylosis is less likely to occur. He feels certain that prolonged immobilization of the joint does not tend to ankylosis, in fact quite the reverse, hence it should not be feared to keep a joint permanently immobilized too long.

In immobilizing a joint two things should be kept in mind: First, the joint must be at ease, with each surrounding muscle at rest and not stretched or irritated. Second, the splint should be as light as possible and still give complete immobilization. To accomplish the first object Ochsner fixes the diseased ankle joint with "the foot at a little less than a right angle to the leg." If it is properly applied the twitching of the muscles and pain will soon cease, and while it may be necessary for the patient to remain in bed for a few days, he may soon be allowed to go about on crutches. As soon as he can step on his foot without pain the crutches may be discarded, a soft leather shoe placed over the cast. and the patient allowed to resume his ordinary occupation.

The correct position "for the knee joint is immobilization at an angle of about 175°. The cast should extend from the tuberischium to the malleoli," but the whole cast should not weigh more than two pounds. So long as the knee is painful the patient may go about on crutches with a high-soled shoe on the other foot, but as soon as the patient can bear his weight on the affected leg without pain the crutches and high sole may be discarded.

"In the hip the position of muscle equilibrium is 10° of abduction and 5° of ventral flexion, and the cast should extend from the level of the umbilicus to a little above the knee." As a rule Ochsner would not apply extension, although sometimes it is advisable to use Buck's extension at night. The patient walking about with a crutch and a high sole under the other foot gives the necessary extension. Again as soon as the patient can bear his weight without pain Ochsner would take away the crutches and the high sole.

"In tuberculosis of the fingers, hand or wrist the cast should extend from the tip of the fingers to within two inches of the elbow, and the fingers, hand and wrist should be perfectly straight.

"At the elbow the cast should extend from the wrist to the axilla and the arm and forearm should be at right angles.

"In the shoulder the arm should be strapped to the chest with adhesive straps with a small triangular pad in the axilla. The cap is now applied over the shoulder and held in place with a soft roller bandage. The forearm is then placed in a sling."

Ochsner believes that the best cast is made of plaster-of-Paris applied over stockinette and then reinforced by wheat gluten bandages. The length of time a cast should remain in position can not, of course, be definitely stated, but as Ochsner believes that ankylosis is not caused by prolonged immobilization the cast should be kept on long enough, and in the case of the hip joint he makes it a rule to leave the cast in place six months after he is convinced the tuberculosis is healed.

If a patient be first presented for treatment with a very painful joint, partial ankylosis in bad position, and is emaciated, Ochsner would anesthetize the patient, place the joint in the position above described as the best, immobilize it, give subsequent hypodermatics of morphin sufficient to control pain and muscle spasm, and when such has entirely subsided, begin on the tuberculin treatment when the opsonic index shows it is indicated, this procedure, of course, being carried out in combination with the usual fresh-air treatment of the disease.

Acute Yellow Atrophy of the Liver in Pregnancy.—A. Bertino's monograph on this subject fills the *Ginecologia* of July 31, 1908. He has had occasion to observe nine cases of epidemic jaundice in pregnant women, including two in which it assumed a malignant form. He warns that jaundice in a pregnant woman, although apparently very mild, may at any moment assume the maligant form and develop into acute atrophy of the liver. The causes of this transformation into the graver form are manifold, but of most importance are those which induce changes in the parenchyma of the liver, which during pregnancy is in a condition of reduced resisting power on account of the extra work imposed on it and the possibilities for autointoxication. Twin pregnancy and affections of the blood (anemia), on account of the fatty degeneration of viscera. liable in this condition, may aid in transforming simple jaundice into the fatal form. The symptoms suggest an acute process of autointoxication, like eclampsia.

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[*For other information see second page following reading matter*]

SATURDAY, NOVEMBER 28, 1908.

REPORT OF THE SURGEON-GENERAL OF THE ARMY FOR 1908.

In his annual report[1] for 1908 Surgeon-General O'Reilly gives some interesting information in regard to the health and sanitary conditions of the army at home and abroad. Admission, death, discharge and non-effective rates are all better than for last year and show progressive improvement since 1898. The improvement is principally in the group of preventable diseases, except tuberculosis and malaria. The admission rates for typhoid fever and for malarial fevers are the lowest of which there is any record in the surgeon-general's office.

As regards tuberculosis, the conditions are unsatisfactory. The measures suggested to control tuberculosis are greater care in the examination of recruits to exclude incipient cases, and better housing conditions, including larger initial air space and more effective ventilation. With regard to venereal diseases, it is hoped to accomplish something by teaching the enlisted men personal hygiene and by getting a better class of men, but it is not believed that any great diminution of non-effectiveness from this cause will be obtained until venereal diseases are included among the group of infectious diseases for which compulsory notification is required.

The most important causes of deaths from disease in the army for the year are, in the order of their relative importance, tuberculosis, pneumonia, cerebrospinal fever, typhoid fever and heart disease. Comparing the different countries in which United States troops were serving, it is shown that Alaska, as usual, had the lowest constantly non-effective rates, while the Philippine Islands had the highest. Comparing our own army with those of foreign countries, it is noted that our admission, death and non-effective rates are higher than in most other armies. This is not necessarily to be taken as indicating less effective sanitary precautions. There are many factors which must be considered in making this comparison. For instance, our army is the only one which includes in its admission rate cases treated in quarters, and while our death rate is higher than that of most other armies, yet when we are able to obtain a total loss rate, which is the sum of deaths and discharges for disability, our rate compares favorably with European armies. It is evident that by promptly discharging soldiers who are likely to die and allowing them to die out of service, a fictitiously low death rate can be obtained.

In regard to sanitation, the surgeon-general makes an appeal for more executive authority for his department in sanitary matters, and also that all special apparatus used in sanitary work and in the care and transportation of the sick, such as ambulances, water carts, water sterilizers, disinfecting apparatus, etc., should be purchased and supplied by the medical department. This seems such a reasonable and common-sense proposition that the wonder is it has not been done long ago. He speaks of the active anti-mosquito campaign which has been conducted for several years past and shows that the tremendous reduction in admission rate for malarial fevers is sufficient of itself to justify the additional cost of such measures. Attention is called also to the importance of house flies as carriers of disease, and, with a view to preventing the breeding of flies on military reservations, recommendation is made that all accumulations of stable manure should be kept in fly-proof rooms.

In Cuba a serious outbreak of typhoid fever which occurred in the preceding year is reported as being under control, although the admission and death rates are still much higher than in the United States. It is interesting to note that the medical returns show far less dysentery among the troops in Cuba than among those serving in the Philippine Islands. Indeed, it is believed that most of the cases reported from Cuba were recurrences of infections contracted in the Philippine Islands.

In the Philippine Islands all the rates were better than for the preceding year. The death rate, 6.92 per 1,000, is the lowest ever attained there. The principal factors in the improved morbidity and mortality statistics in those islands are the marked falls in the rates for malaria, dengue, and the eruptive fevers, diarrheal diseases and diseases of the skin. As concerns sanitation in the Philippine Islands, the surgeon-general recommends that at all permanent posts the construction of barracks and quarters should be of a permanent character. The buildings should be specially designed for tropical service; thoroughly screened against flies and mosquitoes; provided with porches to keep the sun's rays from the walls and with a concrete base to protect them from the subjacent soil dampness. Their construction should probably be concrete, with native hardwood floors and tile roof.

The Board for the Study of Tropical Diseases in the Philippine Islands reports the discovery of four cases of pulmonary paragonimiasis in one company of Filipino scouts serving in Samar, and two more in another company serving at the same station. They also report a fatal case of infection with the *Schistosomum japonicum* in a Filipino scout.

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[1] Commented on in General News, The Journal A. M. A., Nov. 21, 1908.

The surgeon-general reports the reorganization of the Medical Department and the organization of the new Medical Reserve Corps in accordance with the act of April 23, 1908. Aside from the active members of the Reserve Corps, an inactive list has been constituted, which includes many of the most eminent physicians and surgeons in the United States. These men have consented to accept commissions in the corps without compensation and entirely from patriotic motives.

ENLIGHTEN THE PUBLIC ON FRAUDULENT MEDICAL CONCERNS.

In another column will be found details concerning a quack "institute" which has been excluded from mail privileges as a fraudulent concern. This makes the third article of the kind published in THE JOURNAL, the preceding ones being the Reinhardt case[1] and the Hibbard case.[2] These matters, of course, have little of scientific interest, and there are some, doubtless, who wonder why so much space is devoted to subjects that are really more fit for the general newspaper than for a medical journal. The answer is simple: The newspapers, as a rule, are so closely in bondage through their advertising columns to these concerns that, even if the matter were offered them, they would not publish it.

The present exposure is a typical exemplification of the tricks by which the public is constantly being defrauded. The assertions of the promoters of this fraud are typical of the falsehoods which underlie, so far as we have investigated, all these "cures;" for example, (1) that a new treatment, unknown to the medical profession, has been discovered, the actual fact being that the method is well known to, and used by, that profession for what it is worth, but with an understanding of its limitations; (2) that physicians of more than ordinary skill are employed by the concern, when, in fact, in so far as the work is done by physicians at all, such men are of low grade as to their grounding in general professional knowledge, and on good grounds, other than the present indictment, they are usually professional outcasts; (3) that individual care is given to the peculiar features of each patient's case; when, in point of fact, a stock diagnosis is made and a hotchpotch treatment applied, indiscriminately or with trifling or haphazard variations, to all alike—the very thing, the least appearance of which in a physician's dealing with his patient, leads to the resentful, but generally unjust, complaint, "He didn't pay sufficient attention to my case;" (4) that the treatment is harmless and not costly, while in fact the former claim is frequently untrue and the latter always so. It is simply an immoral mode of trading, in which the sale of a few cents' worth of material for tens, hundreds, or even thousands of dollars is forced by false pretenses on the individual, according to his available financial resources and his gullibility.

The facts presented are not new to physicians, who know that all these "mail order" concerns are, without exception, the schemes of swindlers—of vampires who prey on the ignorant sick or on those who have been led to believe they are sick *by the advertisements circulated by the concerns themselves*. The sufferers from consumption, locomotor ataxia, cancer, epilepsy and other more or less incurable diseases are a particularly easy prey. Like the proverbial drowning man, they are ready to grasp at any therapeutic "straw," however absurd or impossible it may seem to a rational mind. Even persons ordinarily sensible are, under these circumstances, so mentally unbalanced by reason of their condition that they are apt to credit as probably true the unscrupulous promises of cure held out to them by these ghouls.

Physicians may warn their patients of the fraudulent nature of these concerns, but unless they can enforce their "wise saws" with "modern instances," giving chapter and verse, their warnings almost certainly will be attributed to wrong motives and remain without effect. It is, therefore, to supply physicians with concrete and indisputable facts regarding these concerns that THE JOURNAL is publishing these articles and other similar ones to follow. But having done our duty in placing the facts at their disposition, it devolves on physicians to insure their wide dissemination. To publish these facts for physicians alone would be a work of supererogation; it is the public, and especially that portion of the public likely to be taken in the toils of these fraudulent impostors, which must have the information if it is to have any lasting effect. Valuable as was the exposure by *Collier's Weekly* of the "patent-medicine" fraud, its effect would have been only transitory had it not been for the wide and still continuing distribution of the revelations in pamphlet form from this office. This it is which has made Mr. Adams' article a living and powerful force to-day. In like manner it is our purpose to republish in pamphlet form, and at a nominal price, for distribution by physicians among their patients, the exposures of these quack medical institutes. We repeat, however, it rests with the individual members of the medical profession to use effectively the weapons which are provided them in the warfare against unscrupulous quackery and fraud.

LABORATORY GLANDERS.

The sad death of Dr. Thomas M. Wilson,[1] of Chicago, from acute glanders, in all probability contracted while engaged in experimental work with glanders bacilli, again illustrates the peculiarly grave dangers that surround workers with this bacillus. Probably no other germ has caused so many fatal laboratory infections, and the list of bacteriologists who are known to have lost their lives from accidental infection while studying the glanders bacillus is a long one, and no doubt it would be considerably longer still were it possible to collate all the cases of this kind. And then, too, there are also instances of final recovery after prolonged illness acquired in the course of laboratory work.

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[1] THE JOURNAL, Oct. 3, 1908, p. 1144.

[2] THE JOURNAL, Oct. 17, 1908, p. 1330.

[1] Recorded under "Deaths" in this issue, p. 1888.

In some of the cases it is tolerably well known just how the occasion for infection arose, as, for example, through the breaking of a tube containing a culture of the bacillus and the spreading of the contents about the workroom or by some similar accident, but in many cases the infection has occurred without any known explanation of this kind and without any known failure in the usual precautions, so that it has seemed as if the bacillus were able to resist the usual methods of sterilization employed in routine bacteriologic work and thus to escape into the free environment of the worker. Indeed a well-known London bacteriologist is credited with the statement that he believes the glanders bacillus can withstand the sterilization the platinum wire ordinarily is given in the actual flame. Be that as it may, the bacillus is not regarded as especially resistant to heat and chemicals, and it is currently stated that it is destroyed by a temperature of 55 degrees C. in ten minutes and by 61 degrees C. in one minute, and, furthermore, that it is readily killed by a 5 per cent. solution of carbolic acid and a 1 to 5,000 solution of corrosive sublimate. The bacillus, however, is resistant to desiccation, the reported longevity under drying ranging from a few days to several months, and pure cultures are said to be more resistant than the bacilli in nasal exudate. Another feature of interest about many of these so highly regrettable laboratory infections is that the manner of entrance into the body by the bacilli is not at all clear, there being no primarily local symptoms to mark the point of invasion. It is believed that in such cases the bacilli pass directly through some part of the respiratory mucous membrane, perhaps most often the nasal, and thus cause the general infection. We know that small animals are easily infected by placing virulent material in the nose. That the bacillus has marked penetrative powers, resembling in this respect the pest bacillus, is shown by the experiments of Cornil and Babes, who produced glanders infection in guinea-pigs by placing a salve containing bacilli on the skin.

The great danger of the worker with glanders bacilli falling a ready victim to the gruesome and fatal disease they may cause makes it imperative that special precautions be taken to a much larger extent than probably is the case at this moment in the laboratories throughout the country. Investigative work with glanders bacilli is not to be lightly undertaken without due and competent consideration from all points of view. Veterinary, state and c[illegible] laboratories should be prepared to care in the most ideal way for all the infectious material sent them, because this may contain glanders material at any time. Finally, it should be impressed on the individual worker, especially the young and enthusiastic who stand at the beginning of a promising career and to whom the occasional case of glanders often seems to offer interesting problems, that the tradition about laboratory glanders is not a myth but a terrible reality against which he can not guard himself too closely.

THE NATIONAL CONSERVATION OF HEALTH.

In another department[1] appears the address delivered by *Dr. Charles A. L. Reed of Cincinnati*, at a public meeting held under the auspices of the New York Academy of Medicine, in which the problem of the conservation of the health of the nation is discussed in a broad manner, intelligible and convincing to the layman. Putting aside both the professional and humanitarian sides of the question, Dr. Reed considers the problem from a purely economical standpoint, appealing to the people to end the terrific and unnecessary waste of human life and energy occasioned by preventable illness and death.

That the question is timely is shown by the newspaper discussion aroused by Dr. Reed's address, for seldom has a professional utterance caused such widespread comment. By showing that the financial interests involved in the solution of this problem far exceed in magnitude those of the Army and the Navy combined, and that the advice and counsel of trained physicians and sanitarians are indispensable for its proper solution, Dr. Reed has proved, with mathematical accuracy, the right of the physician to claim a seat in the highest legislative body of the nation.

Particularly timely, in this connection, is an editorial in a recent number of the *Cleveland Medical Journal* entitled "Why Should a Physician Go to the United States Senate?" The editor shows, from an analysis of the membership of the Senate and House, that out of 162 occupations recognized by the United States census, only 19 are represented in the Sixtieth Congress, lawyers constituting 76 of the 91 members of the Senate and 273 of the 394 members of the House or 349 of the total membership of 486. In the Senate alone only 10 of the 162 occupations are represented. As the editor forcefully says, in the past questions of a legal form and technical detail have been the important considerations before Congress, while to-day sociologic and administrative problems are most imperative. The necessity of broader representation, as well as the value to legislative bodies of members possessing technical knowledge of sanitary matters, is evident.

The medical profession is asking for adequate representation in Congress not only as a privilege and right but as a duty which it owes to the public. The favorable comment aroused by Dr. Reed's address shows that when this issue is put fairly and plainly before the people, this duty will not only be recognized but insisted on and that the people will demand that the medical profession send some of its recognized leaders to Congress in order that they may point out the way to better sanitary conditions for the saving of human life and national resources.

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[1] Special Article, page 1856.

Few, if any, members of the profession are better qualified to lead in such a work than Dr. Reed. His high standing in scientific circles, his experience on the Panama Canal Commission, his fearlessness and integrity combined with his well-known ability as an orator and debater, combine to fit him admirably for a seat in the United States Senate. In that body his ability as a leader would soon be demonstrated. Ohio, which has already furnished so many leaders and which proudly claims the next President of the United States as her favorite son, can render an additional and valued service to the nation by sending Dr. Reed to the Senate to lead in a great campaign for national health.

THE FOUNDATION OF ETHICS.

The reinstatement of ethics as an essential constituent of all practicable social and business relations moves onward. Business organizations are beginning to realize that without a general adhesion to sound principles of right conduct commercial anarchy must ensue. The basic idea of this proposition was clearly grasped and enunciated at a recent dinner of the Chicago Business Science Club. "It is well," said one speaker, "to strike at the serpents of greed and graft wherever they show their heads, but that is not enough; we must kill not only the serpents but their eggs, we must destroy their seed. . . . In a few years all of us will have been replaced by the generations now in the public schools. We must get back to the public schools to inculcate the science of right conduct in business." Here lies the root of the matter. It is in education—that is, not mere instruction in the facts of history, geography, science, mathematics, languages or what not, but in character building—that the justification is to be found of the saw, "The child is father of the man."

The proper preparation of the young man to fit him in all respects for the pursuit of his future career is of prime importance in the case of medicine. The relations of the medical man to the public are so peculiar, so much more intimate than the relations of other classes of men to the public, that a sound ethical training should take the first place in the equipment of the medical student. Religious education of any kind always includes the principles of ethics. The secularization of the schools which accompanied the establishment of the public school system, while doubtless as right as inevitable on general principles, carried with it the disadvantage of the exclusion of systematized ethical training, and no general steps have been taken to remedy this deficiency by the institution of definite ethical courses.

In like manner the abrogation of the practice of preceptorship from medical education has eliminated a practical training in that important part of the profession of medicine, the social relations of the practitioner with the public and with his individual patients. It is essential that partially to remedy the defect in medical training arising out of the discontinuance of the system of apprenticeship under a preceptor, the formal study of ethics as applied to medicine should have an important place in the medical curriculum.[1] While the place of the preceptor can not be filled by the medical college, every effort should be made, not only to inculcate ethical ideals, but also to impress on the medical student the fact that success in medicine does not depend alone on exact diagnosis and successful treatment, and that in practice he will have to treat patients, not "cases."

THE PUBLIC SERVICE OF PROFESSIONS.

The keynote of an admirable paper by M. L. Cooke[2] is found in Professor Hadley's address on the "Professional Ideals of the Twentieth Century," in which it is stated that "a man ought to have a clear conception of the public service on which his profession is based . . . a clear conception of the public service which his profession can render and the public duties which its members owe." It is as true of medicine as it is of engineering that (*mutatis mutandis*) there are "three parties interested, viz.: the engineer, his employer and the public." It is also as true of physicians (at least until very recent times) as of engineers "that the chief service rendered to the public by the . . . profession has been one rendered indirectly by serving well the second party interested—the employer." Mr. Cooke refers to the work already accomplished by the American Medical Association toward the establishment of a proper conception of the public services due from the medical profession to the public, as pointing the way for his own profession to follow. He cites the fate of the report of John R. Freeman on the Iroquois Theater disaster as an instance of the impotence of the most important investigations into the application of technical matters to the public good, in the absence of a supporting public opinion, which must be the result of education. "There is good reason to believe," he says, "that engineers have as much to gain from cooperation with the public as they have undoubtedly gained from cooperation with each other." This is equally true of the medical profession. Among the measures that he suggests for his profession are lectures to the public and the provision of at least one lecture on a technical topic of general interest at the national professional conventions; the formation of a committee to insure that information of the proper kind, having the requisite "news" character, shall be prepared for the use of the press: and other matters of a more limited scope. It is evident that a realization of public service as a duty of professions is in the air, and this should stimulate the profession of medicine to renewed efforts for the benefit of collective humanity.

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[1] In this connection, see Correspondence Department, this issue.

[2] Journal of American Society of Mechanical Engineers, New York City.

Medical News

ALABAMA.

Medical Department Opens.—The regular session of the Medical Department of the University of Alabama, Mobile, opened October 5. Dr. William H. Saunders, state health officer, gave the opening lecture.——The opening exercises of the fifteenth session of the Birmingham Medical College were held September 30. Dr. G. W. Macon of Howard College and Dr. J. H. Phillips, superintendent of the Birmingham public schools, and others, made addresses.

Personal.—Dr. H. L. Hough, Florence, has been elected city physician by the Lauderdale County Medical Society.——At the meeting of Mobile County Medical Society, October 29, Dr. Douglas G. Campbell was elected county physician.——Dr. O. F. Cawthorn, Mobile, a trustee of Mobile Medical College, has presented to the institution portraits of four prominent physicians of the city, Drs. Anderson, Heustis, Ross and Gaines.——Dr. George R. Rau, Tuscaloosa, Birmingham, has been appointed demonstrator of anatomy in the medical department of the University of Alabama, Mobile.

Hospital Notes.—Papers of incorporation of the Sellers Hospital, Anniston, have been filed. The institution will be known as Union Hospital, and will be accessible to all physicians of the city. Drs. Edward M. and William D. Sellers are of the incorporators. The capital stock of the hospital is placed at $25,000.——Free medical aid for the sick and injured in Montgomery is announced by Dr. Gaston J. Greil, city health officer. A dispensary has been established, at which relief will be given during certain hours of the morning and afternoon, to all those who are unable to pay for medicine and treatment.

CALIFORNIA.

Medical College Under New Auspices.—Cooper Medical College, San Francisco, began its career as an integral part of Leland Stanford, Jr., University, November 3. It will henceforth be known as the school of medicine of the university.

Biennial Vital Statistics.—In the biennial report of the State Board of Health, it is shown that the births registered in the state for 1907 numbered 24,647, an increase of 3,673 as compared with 1906. The births included 12,645 boys and 12,020 girls. There were 23,005 marriages registered in the state in 1907, or 1,688 more than for the previous year. The deaths in the state numbered 31,095 for 1907, against 29,303 in 1906, an increase of 1,792, or 6.1 per cent.

The Afflicted.—Dr. Arthur Dangerfield, North San Juan, has gone to San Francisco, where he may be operated on for appendicitis.——Dr. Elmer E. Stone, superintendent of the State Hospital for the Insane, Napa, was operated on October 27, for appendicitis, and is doing well.——Dr. William W. Rumsey, Napa, underwent amputation of the third finger of the right hand, October 20, on account of infection.——Dr. William W. Fitzgerald, Stockton, who was operated on for strangulated hernia recently at St. Joseph's Home, is well on the road to recovery.

Personal.—Dr. Henry L. Nichols, for many years city physician of Sacramento, has resigned, and Dr. William K. Lindsay, acting city physician for the past year, has been selected to fill the vacancy.——Dr. William R. Dorr, warden of the City and County Hospital, San Francisco, has resigned.——Dr. Eugene C. Dunn has been selected as a member of the board of health of Fresno, vice Dr. Jackson L. Martin, resigned.——Dr. and Mrs. Edward W. Twitchell, Sacramento, have returned from Europe.——Authorization for the payment of a fee of $5,000 to Dr. Henry Harris, San Francisco, from the estate of Levi Shilling, was filed with the county clerk October 7.——Dr. William W. Cross, Jr., formerly of Visalia, has been appointed city bacteriologist of Fresno.

Society Meetings.—At the eighteenth annual meeting of the California Northern District Medical Society, held in Chico, November 10, the following officers were elected: President, Dr. Edward W. Twitchell, Sacramento; vice-presidents, Drs. William J. Hanna, Sacramento; Dan H. Moulton, Chico; and Albert Osborne, Hamilton City; secretary, Dr. Joseph W. James, Sacramento (re-elected); and censors, Drs. Wallace A. Briggs, Sacramento; Andrew M. Henderson, Sacramento; Samuel W. Langdon, Jr., Stockton; Walter E. Bates, Davisville; and John Fife, Red Bluff.——At the annual meeting of the San Mateo County Medical Society, held in San Mateo, November 9, Dr. Henry C. McClenehan, Belmont, was elected president; Dr. D. Brandley Plymire, South San Francisco, vice president; and Dr. Franklin M. Seibert, San Mateo, secretary-treasurer (re-elected).

Hospital Notes.—St. Anne's Maternity Hospital, Los Angeles, was dedicated with solemn ceremony, November 6.——As the result of "Tag Day" in San Francisco, more than $27,500 has been added to the building fund of the new Children's Hospital.——San Antonio Hospital, Upland, built only a little more than a year ago, is to have an addition of twelve rooms, which will practically double its capacity.——The Lower California Sanitarium Company has announced that it will erect a sanitarium on the border of Mexico to cost $125,000. Dr. Charles A. McQueston, Alameda, formerly president of the board of health of San Francisco, and Dr. Eduardo Liceaga, minister of health of Mexico, are said to be interested in the project.——Abbott Hospital, Richmond, has been incorporated with a capital stock of $25,000.——The San Francis Hospital Association, San Francisco, has purchased a site at Hyde and Bush streets, on which it will erect a hospital with accommodation for 200 patients.——The directors of the Peninsula Hospital, Palo Alto, have purchased a site, 225 by 275 feet, on Franklin Avenue, at a cost of $10,000. The main building will be 40 by 120 feet and is to be three stories in height and have a roof garden. The structure will be frame, covered with cement.——The Hospital and Health Committee of San Francisco have denied the application of the Oriental Hospital for leave to establish and maintain a hospital on Trenton street, between Washington and Jackson.

GEORGIA.

Tuberculosis Exhibit for Atlanta.—Steps have been taken by the Atlanta Antituberculosis Association to secure for exhibition in that city, the traveling exhibit of the National Association for the Prevention of Tuberculosis.

District Society Meeting.—At the annual meeting of the Sixth District Medical Association, held in Macon November 11, Dr. Alfred F. White, Flovilla, was elected president; Dr. James W. Cowart, Walden, vice-president, and Dr. Eugene B. Elder, Macon, secretary-treasurer (re-elected). The next meeting will be held at Indian Springs.

ILLINOIS.

Diphtheria Antitoxin Purchased.—The state board of health has placed a contract for diphtheria antitoxin for free distribution. The antitoxin will be sent to 200 agents in the state, who will issue it as required to physicians. The legislature appropriated $30,000 for this work.

Contagious Diseases in Chicago.—During the week ended November 21, there were 788 cases of contagious disease reported, distributed as follows: Diphtheria, 214 cases; scarlet fever, 212; tuberculosis, 127; chickenpox, 68; measles, 58; typhoid fever, 42; pneumonia, 25; whooping cough, 17, and minor diseases, 24. Compared with the report of the preceding week, this shows 22 cases fewer of diphtheria and 21 fewer of typhoid, an increase of 10 cases in scarlet fever and double the number of chickenpox cases.

Deaths of the Week.—The mortality report of Chicago for the week ended November 21 shows 596 deaths, equivalent to an annual death rate of 14.34 per 1,000, an increase of 31 over the preceding week and of 61 over the corresponding week of 1907. Consumption was the leading cause of death, with 77. Other principal death causes were: Pneumonia, 63; acute intestinal diseases, 54; nephritis and heart diseases, each, 50, and violence (including suicide), 38. There were reported 23 deaths from diphtheria, 13 from scarlet fever, 6 from measles, and 5 from typhoid fever.

Personal.—Dr. E. C. Dudley and family, Chicago, have returned from Europe. During his stay in Vienna, Dr. Dudley was elected an honorary member of the American Medical Association of Vienna, being the third individual to be thus distinguished, the preceding honorary members being Dr. Politzer of Vienna and Dr. William W. Keen of Philadelphia.

——Dr. B. G. R. Williams, formerly of Danville, has moved to Paris and has established a laboratory for the use of the physicians in the surrounding territory. In addition to the ordinary microscopic and chemical analyses, the modification of milk will be undertaken in this laboratory.——Dr. Daniel R. Brower, Chicago, has been appointed a member of the state committee having in charge the investigation of the Cook County Insane Hospital, Dunning.

KANSAS.

Do Not Want Publicity.—The Wilson County Medical Society, at a recent meeting, adopted a resolution requesting all newspapers in the county to refrain from mentioning physicians' names in connection with medical or surgical cases.

Kansas Missionaries in China.—Dr. J. M. Wright, formerly of Topeka, has returned to that city on a visit after nearly five years' work as a medical missionary at Tak Hing, Chow, China.——Dr. J. P. Todd, Topeka, is in charge of a hospital in Canton.

Must Not Sell Cocain.—The Kansas City Board of Health has taken up actively the cause of those fighting the sale of cocain, and has issued the following notice to all druggists within its corporate limits: "I hereby notify all druggists or drug clerks or other individuals who sell, give away or dispose of cocain or other narcotics without a prescription from a reputable physician, that they will be prosecuted to the full extent of the law, favors shown to none.

(Signed) J. A. FULTON, Secretary Board of Health."

MASSACHUSETTS.

Certified Milk for Worcester.—The October meeting of the Worcester District Medical Society, at which the Homeopathic Medical Society and milk dealers of the city were guests, was devoted to milk problems. Dr. Lester C. Miller presented a paper on "Fat-Free Milk"; Dr. Roy J. Ward, one on "Results Obtained at the Clean Milk Station Conducted Last Summer by the Fresh Air Fund"; Dr. Francis H. Slack of the Boston Board of Health, one on "Bacteriologic Examination of Milk," and Dr. R. M. Merrick, chairman of the Norfolk District Medical Commission, one on "The Value of Inspected Milk in Infant Feeding." The society voted to establish a milk commission and appointed the following members: Drs. George E. Emery, Merrick Lincoln, Lester C. Miller, Roy J. Ward, Charles L. Nichols, Edwin R. Leib, Prof. Leonard P. Kinnicutt, and T. Hivers Gage, Jr., representing the staff of the Worcester Board of Health. The commission organized with Dr. Nichols, chairman, and Dr. Ward, secretary-treasurer, and hopes soon to have supplies of certified and inspected milk to recommend to the profession.

Personal.—Dr. George H. M. Rowe, for thirty years superintendent and resident physician of the Boston City Hospital, resigned November 4. He will be succeeded by Dr. John H. McCollom, who was formerly in charge of the contagious hospital.——Dr. B. Swayne Putts has resigned his position at the State Sanatorium for Tuberculosis, Rutland.——Dr. Walter Channing, Brookline, has been appointed chairman of the board of trustees of the Hospital for the Insane in the Metropolitan district of Boston. This is under the provision of the new law, whereby the insane of Boston are to be cared for by the state in the same way as those of other towns and cities of the commonwealth. The present institutions are to be continued, but under the direction of this new board, instead of the former city board.——Dr. Paul H. Provandie, Melrose Highlands, has been appointed associate medical examiner for Middlesex County, and Dr. William O. Faxon, Stoughton, medical examiner for Norfolk County.——Dr. Guy G. Fernald, Boston, for many years a member of the staff of the McLean Hospital, Waverly, has been appointed resident physician of the Massachusetts Reformatory.——Dr. B. R. Rickards, director of the bacteriologic laboratory of the health department, Boston, has resigned to take charge of the laboratory of the state board of health, Columbus, Ohio.——Dr. Frederick L. Brush, Boston, has been appointed superintendent of the New York Post-Graduate Medical School and Hospital.——Dr. Burdett L. Arms, Boston, has been appointed assistant director of the bacteriologic laboratory of Boston.——Dr. Edward H. Trowbridge has been appointed president of the Worcester board of health.

MICHIGAN.

Personal.—Dr. Carl J. Larson, a member of the staff of Negaunee Hospital, has resigned and will be succeeded by Dr. P. S. Wilson, Grand Rapids.——Dr. Edwin R. Campbell, Flint, has, it is announced, decided to give up practice and will go into the automobile business.

Undergraduate Medical Association.—A number of the members of the senior and junior classes of the medical department of the University of Michigan perfected an undergraduate medical association last spring under the name "Medical Review of the University of Michigan, the membership of which is made up principally of assistants and members of the senior and junior classes. Meetings are held monthly, at which papers are read and matters of interest to the medical department and profession are discussed. This is entirely a student's organization, and the primary object is to get undergraduates actively interested in the matters pertaining to his chosen profession. In addition to the miscellaneous papers, the organization has started a systematic study of the history of medicine.

MISSOURI.

College Now in Good Standing.—After an inspection made recently by a committee of the Missouri State Board of Health, Barnes Medical College, St. Louis, has been restored to good standing by that board.

Fund for Hospital.—Mercy Hospital, Kansas City, will receive a fund of $10,000. Mr. J. W. Semple of Cripple Creek, Colo., donated $1,000 on condition that the hospital raise $9,000 by November 15. Of this, the final $1,000 came from Mr. J. L. Loose of Kansas City.

Visiting Physicians Appointed.—The board of health of Kansas City has appointed the following as the officers of the staff of visiting physicians of the General Hospital: President, Dr. Jabez N. Jackson; vice-presidents, Drs. Jefferson D. Griffith and C. Lester Hall, and secretary, Dr. J. Park Neal.

Resolutions.—The St. Joseph-Buchanan County Medical Society, at its meeting November 11, adopted resolutions urging the establishment of a national health bureau, and the enforcement of local ordinances prohibiting spitting on sidewalks and in public conveyances and the inspection of meat in butcher shops, slaughter houses and packing houses.

NEW YORK.

Harvey Society Lecture.—The fourth Harvey Society lecture, delivered November 28 by Dr. Wilhelm Falta of the University of Vienna, is on "The Therapeutics of Diabetes."

Volunteers Wanted.—The committee on scientific work of the New York State Medical Society is now preparing the program for the coming meeting. Those who wish to read papers are requested to communicate with the chairman, Dr. Leo H. Neuman, 194 State Street, Albany.

Pleads Guilty.—James Doty, indicted at Rochester for illegal practice of medicine under a diploma issued in another's name, is said to have pleaded guilty of practicing medicine without a license, in the Genesee County Court, November 11. The maximum penalty for the offense is one year in the penitentiary and a fine not to exceed $500.

Alumni Election.—At the annual meeting and dinner of the King's County Hospital Alumni Association, held in Brooklyn November 16, Dr. James W. Ingalls was elected president; Dr. George E. Corterno, vice-president, and Dr. Franklin B. Van Wart, secretary-treasurer, and Dr. Victor A. Robertson was re-elected historian, all of Brooklyn.

Personal.—Dr. Joseph Fowler, police surgeon of Buffalo, is reported to be ill at his home.——Dr. Alfred Mercer, Syracuse, said to be the oldest practitioner in central New York, celebrated his eighty-eighth birthday anniversary November 14.——Dr. Hugh McGee, Buffalo, has been appointed national medical examiner of the Postoffice Clerks' Insurance Association.

Academy Incorporates.—The Buffalo Academy of Medicine filed papers of incorporation in the office of the clerk of Erie County November 10. The object of the society is to promote the science of medicine and maintain a medical library and museum. The directors, who also act as the council, are as follows: Drs. Edward A. Bowerman, Harry R. Trick, William Irving Thornton, Grover W. Wende, Thomas F. Dwyer, Charles S. Jewett, Julius Ullman, Thomas J. Walsh, Lawrence Hendee, Thew Wright, Earl P. Lothrop, Edward C. Mann, James A. Gibson, Frederick J. Parmenter and Allen A. Janes.

NORTH CAROLINA.

Communicable Disease Prevalence.—The State Board of Health reports for October that measles was prevalent in 5 counties, whooping cough in 16 counties, scarlet fever in 25 counties, diphtheria in 39 counties, typhoid fever in 59 counties, pneumonia in 18 counties, malarial fever in 17 counties, and smallpox in 3 counties.

Physicians in the Legislature.—Among the 121 members-elect of the legislature are the following physicians: Drs. John A. Pickett, Burlington, Alamance county; Mark B. Pitt, Old Sparta, Edgecombe county; James R. Gordon, Jamestown, Guilford county; Mahlon Bolton, Rich Square, Northampton county; and Robert P. Floyd, Riley, *Franklin county.*

Personal.—Dr. Mary E. Lapham, Highlands, left November 17, for Davos Platz, Switzerland, for the winter to study the methods *in vogue there in the treatment of tuberculosis.*——Dr. Walter B. Mott, Mount Mourne, had a cerebral hemorrhage November 13, and is seriously ill.——Dr. Earle Grady, Tryon, who has been seriously *ill for two months, is reported to be* convalescent.

State Tuberculosis Hospital Opened.—Dr. James E. Brooks, Greensboro, superintendent of the State Hospital for Tuberculosis, announces the opening of the institution, which was authorized by the legislature two years ago, and is located *in the Sand Hill section of Cumberland county, eight miles* from Aberdeen. Eight patients have thus far been admitted to the institution.

State Antituberculosis Society to Meet.—The annual meeting of the North Carolina *State Association for the* Prevention of Tuberculosis will be held in Charlotte, Jan. 12, 1909. The convention will be officially opened by the governor; Dr. J. Howell Way, Waynesville, will respond to the address of welcome, and addresses will be made by Drs. Edward L Trudeau, Saranac Lake, N. Y.; Herman M. Biggs, New York City, and others.

The Polk County Leper.—Secretary Cortelyou in an official statement issued November 7, relative to the case of John R. Early, formerly a soldier in the *Philippines, and a citizen* of Polk county, who contracted leprosy, which was discovered a few months ago when he was in Washington under orders from the pension department, decides under the recent opinions in the case filed by the attorney general against deportation of Earle to North Carolina or elsewhere from the District of Columbia, where he is at present under guard. Mr. Cortelyou holds that while he has authority to make regulations to prevent the introduction of contagious or infectious diseases into a state or territory or the District of Columbia from any state, he has no authority to make any rule by which Early can be deported from Washington, D. C., or whereby North Carolina can be required to receive him.

Directors Protest.—The directors of the State Hospital, Morganton, at a recent meeting, entered a formal protest against the recent action of the State Hospital Commission in declining to add to the existing plant of the State Hospital for the Insane, Morganton, until the State Hospital for the Insane at Raleigh had been enlarged and made to accommodate as many as the former institution; and furthermore, in ordering all tuberculosis cases in the Raleigh *institution to be conveyed to* the Morganton institution, which is situated in the mountains. The directors of the latter institution propose to stand on their rights under the law regarding the *control of the admit*tance to the institution under their care and state they will refuse to receive patients ordered from the eastern district by the Hospital Commission, or tubercular insane from outside the limits of *Morganton district as prescribed* by law.

OHIO.

Will Not Prescribe Liquor.—At a meeting of the Hancock Medical Association, November 17, a resolution was adopted *that no member* should give a prescription for liquor excepting at the bedside of patients, and then only in case of extreme urgency.

Personal.—Dr. S A Hitchcock, Lima, while alighting from a car November 6, fell and fractured his left hip——Drs B S Perry and Eugene A. Smith, district physicians of Cleveland, have resigned, and Dr. Frank Roth has been appointed Dr. Smith's successor——Dr. Starling Loving Columbus, on November 13, celebrated his eighty first *birthday anniversary*

Injunction Against Chiropractic Dissolved.—The Sixth Circuit Court, November 14, is said to have refused to grant the injunction of Dr Charles H. Merz Sandusky, acting for the Erie County Medical Society, to enjoin H. L Murchison, a so-called 'chiropractic," from practicing because he did not have a certificate from the State Board of Medical Examiners The ground on which the injunction was dissolved was that the property rights of Dr. Merz, who inaugurated the legal contest, had not been interfered with, as claimed in his petition

Requirements of Ohio Pure Food Law.—The Dairy and Food Commission of Ohio, Columbus, calls attention to the requirements of the Ohio law, which are that milk shall contain not less than 12 per cent. solids and 3 per cent. fats; that milk from which a *part of the fats* has been removed shall be labeled and sold as skimmed milk; that there is *no fixed* standard for cream; that condensed milk shall be made from whole milk; *that butter shall be made* wholly from pure milk products; that renovated or process butter shall be *made* wholly from pure milk products and shall be labeled and sold as such; that *oleomargarine is an imitation* of butter, not made wholly *from pure milk products* and shall be labeled and sold as such, and shall be free from artificial coloring matter; that cream, including *cream cheese,* Ohio state full cream cheese, or full cream cheese shall be made wholly from pure milk products and shall contain not less than 30 per cent. butter fat; that skimmed cheese shall be *made* wholly from pure milk or cream and may contain less than 30 per cent butter fats; that filled cheese is an imitation cheese, not made wholly from pure milk products, and shall be labeled and sold as such; that milk shall not be sold from cows fed on unhealthy feed, from cows fed on wet distillery or starch waste from diseased or sick cows, from cows kept in a place that is unclean or in an insanitary condition, from cows kept in a *cramped or unhealthy condition;* when water or other foreign substance has been added, or when it is unclean, impure, unhealthy or unwholesome.

PENNSYLVANIA.

Philadelphia.

Personal.—*Dr. Charles W. Dulles, for fifteen years lecturer* on medical history in the University of Pennsylvania, has resigned——Dr. Morris H. Tindall has resigned as medical inspector in the *Bureau of Health.*——*Dr. Benjamin F Stahl* has been elected medical director of St. Agnes Hospital——Dr. W. Howard Lyle has been appointed a medical inspector in the *department of health.*

Aid Association Officers Elected.—At the annual meeting of the Aid Association of the Philadelphia County Medical Society, November 9, the following officers were elected: President, Dr. James B. Walker; vice president, Dr. Jacob R. Shellenberger; secretary, Dr Lewis H. Adler, Jr.; treasurer, Dr. John B Turner, and *directors for three years, Drs. John B. Rob*erts, De Forrest Willard and William T. Hamilton

Cocain Seller Sentenced.—Morris Stein, recently arrested on *the charge of selling cocain* unlawfully, pleaded guilty in quarter sessions court, November 13, and is said to have been sentenced to two years' imprisonment Two other persons charged with similar offences were *sentenced to six months' imprison*ment The judge, in passing sentence, denounced Stein as worse than a common criminal, and a trafficker in souls.

Extending Medical Organization.—*The first step in a more* systematic enrollment into the county medical society of physicians as yet unaffiliated with any professional organiza*tion, was taken, on suggestion of the committee* for increase of membership, by the naming of the following auxiliary committee: Drs. James H. Baldwin, James B Walker and David Riesman. The so-called "Illinois" plan of a paid organizer is to be investigated.

Academy of Medicine Projected.—*Announcement is made of the filing in the county prothonotary's office of the proposed charter of the* "Philadelphia Academy of Medicine," a corporation, the object of which *is the education and* mutual improvement of its members in all matters pertaining to the art of medicine, and by means of lectures, demonstrations and the presentation of papers, *the encouragement of study in* all departments of medical science.

Public Meeting.—The Philadelphia County Medical Society *has decided that,* on December 15, it will repeat its successful public meeting of last year. The society recognizes the necessity of the systematic education of the public as to the true status of the medical profession on such subjects as protection of the masses against epidemic diseases, *animal* experimentation, model laws to guard against criminal and incompetent practitioners *and like great sociologic questions.* At a recent business meeting of the society $100 was allotted for this purpose, and the following executive committee was named: Drs Lewis H Adler, Jr., Alexander R Craig, Samuel P. Gerhard, Samuel W. Gadd and John J. Gilbride.

Health Report.—The total number of deaths *reported for the* week ended November 14 aggregated 483, an increase of 62 over the previous week and of 55 over the corresponding week of last year. The principal *causes of death* were: Typhoid fever, 10; measles, 2, scarlet fever, 8; diphtheria, 13; consumption, 65; cancer, 26; diabetes, 4; apoplexy, 11; heart diseases, 53; arteritis, 8; *acute* respiratory disease, 48; enteritis, 22; hepatic cirrhosis, 6; appendicitis, 5; Bright's disease, 51; premature birth, 8; congenital *debility,* 7; senility, 6; suicide, 2; accidents, 21, and marasmus, 4.——There were 215 cases of contagious disease reported, with 32 deaths, or 63 more cases and 9 fewer deaths than were reported in the preceding week.

Tuberculosis Exhibit.—At a meeting of physicians and laymen with Mayor Reyburn, November 9, it was decided to bring the exhibit which was displayed at the International Congress on Tuberculosis to Philadelphia. It was planned to raise $10,000 to secure the exhibit. The mayor was chosen honorary chairman, and the following permanent officers were elected: Chairman, Dr. Joseph F. Neff; secretary, Dr. Joseph Walsh, and treasurer, E. T. Stotesbury. An organization to be known as the Allied Associations for the Prevention of Tuberculosis, and composed of representatives of nearly every hospital and medical organization in the city, was formed, with Dr. Neff as chairman. The following committees were formed: Committee for procuring exhibit from New York, Dr. Lawrence F. Flick, chairman; finance, Mr. John Wanamaker, chairman; hall and arrangements, Dr. Charles J. Hatfield, chairman; publicity, Mr. James Elverson, chairman; committee on lectures, Dr. William W. Keen, chairman, and woman's auxiliary, Miss Mary Richmond, chairman.

New Home for Epileptics Opened.—The Eastern Pennsylvania State Institution for the Feeble Minded and Epileptics, Spring City, was formally opened November 16. Six buildings have been completed at a cost of $250,000. Temporarily the institution will admit only men, but, when the other buildings are completed, women and children will be cared for. Twenty-three buildings are to be erected at a total contemplated cost of more than $1,000,000, and the institution will occupy a site of over 300 acres. The six buildings already constructed comprise a dining hall, accommodating 600 persons, with a kitchen adjoining, a power plant furnishing heat and light and manufacturing ice for the entire institution, an industrial building, provided with work benches and machinery for the inmates, two dormitories capable of accommodating more than 250 patients, and a teachers' home, which will be used as the administration building for the present. Dr. Henry M. Weeks, president of the International Society for Epileptics, has been appointed superintendent, and the following men have been elected to the board of trustees: John P. Crozer, president, Upland; John B. Lober, treasurer, Philadelphia; Samuel A. Whitaker, secretary, Phoenixville; Drs. Wharton Sinkler, Philadelphia; Joseph K. Weaver, Norristown; T. C. Detwiler, Lancaster, and George B. R. Umstead, Phoenixville; Henry W. Comfort, Fallsington, and B. Whitman Dambly, Skippack.

FOREIGN.

Centennial of Medical Instruction in Brazil.—The National Academy of Medicine at Rio de Janeiro celebrated October 3 the hundredth anniversary of the founding of the medical departments in the universities of Rio de Janeiro and Bahia in Brazil. The session was open to the public, with the president of the academy, Prof. A. Nascimento, in the chair. Five gold medals were awarded, one to the president of the republic and one to the minister of the interior, who were both present, the others being given to the deans of the medical faculty at Rio and Bahia. A souvenir volume edited by F. Figueira was also a feature of the celebration. The *Brazil Medico* of October 8 gives the addresses in full.

PARIS LETTER.

(From Our Regular Correspondent.)

PARIS, Nov. 12, 1908.

Disturbances in the School of Medicine at Paris.

As noted in THE JOURNAL at the time (Nov. 30, 1907, xlix, 1853), in consequence of riotous protests by the Paris medical students against the appointment of Professors Nicolas and Prenant of Nancy to fill the chairs of anatomy and histology at Paris, the dean ordered the Paris medical school closed until Dec. 31, 1907. No further trouble was experienced during the remainder of that school year; but, since the end of the summer vacation the rioting of the students of the first and second years has prevented Professor Nicolas from giving his courses. The dean, realizing that by closing the school the previous year he had punished the innocent with the guilty, called on the police, who arrested the rioters and took them before the courts. The measure was, no doubt, rather harsh; but students and pretended students could not be permitted to burn the school furniture, as they did at Professor Nicolas' opening lesson.

Mission for the Study and Prevention of Yellow Fever.

Although the epidemic of yellow fever in Martinique has been actually on the wane since October 31, the Minister of the Colonies has despatched thither a mission for the study and prevention of the disease, under the direction of Dr. Simond, who, in 1902, took part in a similar mission to Rio de Janeiro for the especial purpose of submitting to critical tests the conclusions of the American military commission at Havana in regard to the rôle of the *Stegomyia fasciata* in the transmission of yellow fever. The present mission is to ascertain and apply immediate measures to prevent the spread of the epidemic now raging at Fort de France and sending out infection toward European ports, especially Nantes and St. Nazaire.

Ordinance in Regard to Preserved Foodstuffs.

The Superior Council of Public Hygiene having called attention to the dangers to consumers of preserved foods put up in boxes decorated with lead paints or varnishes, the president of the council of ministers has forbidden the manufacture or sale of boxes of food so painted or varnished. In order to give manufacturers and merchants the time to close out their stocks, the measure will take effect after Aug. 1, 1909. It applies both to imported and domestic commodities; foreign goods coming under the ordinance will be held at the customhouse.

Medicine and Politics.

Two recent incidents have shown the deplorable consequences of the encroachment of politics on the sphere of medicine. A physician in the customs service, having been elected councilor of arrondissement on a platform which was not acceptable to the administration on September 21 received his dismissal from the customs, to date from October 1, on the ground that his political attitude had been judged incompatible with the functions of a physician of the customs. Medical opinion is agreed that this abrupt discharge of a physician from a position which he has held for years constitutes a violation of liberty of opinion altogether unworthy of a republican government. The syndicate of physicians in the neighborhood of the dismissed physician has decided unanimously that none of its members will accept the position.

The other instance is much more serious, for it implicates a physician. During the judicial proceedings in regard to the *émeute* or uprising of Villeneuve-Saint Georges, one of the counsel for the accused found among the documents in the case a letter from a hospital surgeon (who is also physician to the ministry of the interior), giving information against one of his patients as having been concerned in the disturbances. This fact has naturally aroused much feeling. The counsel for the accused are going to address to the Minister of Justice a protest demanding the prosecution of this physician for violation of professional secrecy. Moreover, two physicians have just addressed to the president of the syndicate of physicians of the Seine a letter suggesting that the syndicate notice "this glaring violation of professional secrecy under particularly revolting circumstances" by some severe measure, such as a public reprimand.

BERLIN LETTER.

(From Our Regular Correspondent.)

BERLIN, Nov. 5, 1908.

Campaign Against Tuberculosis.

By a decree of the Prussian Ministry of Education (*Kultus minister*) it has been ordered that apartments which have been vacated by persons suffering from tuberculosis of the lungs or of the larynx shall be disinfected before occupation by a new tenant at the expense of the community or of the district or of some other association prepared to assume the expense (such as insurance companies for sickness, age or invalidism).

Feeding of Poor School Children.

By a resolution of the Berlin Council it is directed that in the coming winter 8.000 poor school children shall receive warm dinners in the soup kitchens. The same privilege is to be extended to children not of school age on the recommendation of charitable societies.

Crusade Against Lupus.

The German central committee for the fight against tuberculosis has lately instituted a systematic campaign against lupus. As a basis of the measures to be taken (foundation of sanatoria for phototherapy, etc.), the number of lupus patients in the various parts of Germany is first to be determined. For this purpose question blanks have been sent out to the German physicians, in which information regarding the number, sex and age of the patients, as well as regarding the disease, is asked for. These circulars will be collected by the government officials and statistical tables worked out from them.

Health and Recreation Resorts for Children

According to a report of the director of the public charities in Hamburg, there existed in Germany in 1906 the following institutions for children: 41 sanatoria in salt water bathing resorts, with 4,472 beds; 22 seashore sanatoria, with 2,164 beds; 28 sanatoria in health resorts, with 1,304 beds; 6 sanatoria for pulmonary patients, exclusively children, and 10 sanatoria for pulmonary patients in which children are also received, which together provide 283 beds. In addition there were the so-called vacation colonies, in which children needing recuperation are cared for during the summer vacation; nineteen forest recreation stations, etc. All together 66,299 children were cared for in 1906 in all these sanatoria and convalescent stations.

VIENNA LETTER.

(From Our Regular Correspondent.)

Vienna, Nov. 8, 1908.

Appointment of a New Professor of Anatomy.

The post of director of the anatomic museum and lecturer on human anatomy at the University of Vienna, made vacant by the resignation of Hofrat Toldt, who wishes to finish his life work, the "Anatomic Atlas," has been offered to Prof. S. Hochstetter, who has been assistant to Toldt, Langer and Zuckerkandl, and is well known by his researches on the phylogenetic development of the heart and blood vessels.

Increase in Height and Improvement of Physique in Austria.

The recently published reports for 1908 of the army recruiting officers contrast remarkably with those of former years in respect to the number rejected and the average health and physique of the recruits. Every male Austrian subject must present himself three times, between his twenty-first and twenty-fourth years, unless previously finally rejected, for compulsory military service. The requirements were not severe: a minimum height of 155 cm. (5 feet) and a minimum chest measurement of 83 cm. (33 inches). In former years 30 per cent. had to be rejected. Since 1903 a constant improvement in nearly all respects has been observed. The number of myopic, hypermetropic, underfed and crippled youths has diminished until this year not less than 90 per cent. could be pronounced fit. Of those rejected, 60 per cent. came from the rural districts and 40 per cent. from the towns; the grounds of rejection were bad hearing, bad physique and bodily malformation. It is interesting to note that in 1899 the physical requirements for recruits had to be lowered in respect to eyesight and hearing. It is now at least 4 diopters for myopic, 2 diopters for hypermetropic, with 6/12 visual acuity with correcting glasses; hearing in both ears for the whispered voice at not less than three feet, and for the conversational voice at not less than twelve feet. The average height of the Austrian recruit this year is 167 cm. (5 feet 5 inches), an increase of 3 cm. in ten years. The reasons for the improvement of the national physique are not clear, for the improvement in general health and standards of life has not been such as to account for it.

New Hospital with One Thousand Beds.

To celebrate the sixtieth anniversary of the emperor's reign, the municipality of Vienna has decided to found several charitable institutions. One is a hospital with over 1,000 beds; its corner-stone has been laid by the emperor. There will be a surgical ward with 150 beds, two wards for internal diseases with 150 beds each, 150 beds for the open-air treatment of phthisical patients, and the remaining 400 beds will be devoted to gynecologic, otologic, ophthalmic and laryngologic cases. There will also be attached to the hospital a pavilion with 150 beds for paying patients, making 1,150 beds in all. The institution will comprise 19 pavilions, including the necessary laboratories, a library and a pathologic institute. The cost is estimated at about $2,250,000, in addition to the value of the site, which is already owned by the city. At the same time, 5 pavilions, with 120 beds each, will be added to the existing children's hospital as "Emperor's Jubilee Pavilions," so that over 1,700 hospital beds will be added to the existing number in a year's time. It is to be hoped that this addition will be sufficient to do away with the abominable condition now justly complained of, the lack of space being such that dying patients could not be brought into the hospital.

Pharmacology

"Distinguished Turpitude."

"Our friends the medicine men seem to be perking up a bit of late. Orangeine is advertising that it cures headaches, cold, grippe, and indigestion by 'removing the cause.' It 'cures' these things on the same principle that by hitting a man on the brain with a club you may 'cure' his headache until his consciousness revives. Antikamnia also shows signs of making claims as false as those made before the exposures; and some, in spite of their evil, are positively diverting, thus:

"PRACTICAL PRESCRIPTIONS

"Alcoholism—(After Debauch) Antikamnia & Codein Tablets.
"Dose:—One every two hours. Teaspoonful Tr. Gentian Comp. three times daily in water."

"Among the other diseases thus prescribed for are ague, asthma, backache, biliousness, 'car sickness,' catarrh (defined as or recognized by 'pain in head'), 'change of climate,' 'chest pains,' colds ('to stop quickly') consumption ('chest pains'!) delirium tremens, delirium from fever, drunkenness, epilepsy, intermittent and remittent fever, hay fever, hiccough, hysteria, locomotor ataxia, 'threatened pneumonia,' sciatica, seasickness, 'shopper's headache,' St. Vitus' dance, toothache, whooping-cough, and 'worry'! Verily, the supply of suckers is forever inexhaustible, and the 'patent-medicine' bunco game will, doubtless, pick up as the public forgets the information which it recently acquired."

The above is from *Collier's Weekly*. Orangeine and Antikamnia—Antikamnia and Orangeine! Has it come to the pass that mere laymen shall class the great "ethical proprietary" Antikamnia with the plebeian "patent medicine" Orangeine? Banish the thought! And yet, who knows; possibly within the year we may see in the street-cars and elevated trains, sandwiched between posters describing Shac and Orangeine, advertisements extolling the virtues of Antikamnia. One pictures the homeward-bound suburbanite, clinging wearily to a strap in an overcrowded street-car, with the ferrule of a fellow-passenger's umbrella intermittently gouging his intercostal muscles and an obese female standing stolidly on one of his feet. What would be the psychic effect on such an individual of having to face an advertisement which read:

> FEELING IS A SENSE.
> FEELING PAIN
> NONSENSE.
> TRY TWO ANTIKAMNIA TABLETS.

In the language of the immortal Hashimura Togo, "We enquire to know."

Elegant Specialties.

Practically all manufacturing pharmaceutical houses put out more or less—usually more—"ethical proprietaries" for the use of doctors who do not have time to formulate and write individual prescriptions for individual patients. While most of these preparations would be more correctly classed as nostrums, they are always labeled "specialties" in the price lists of the manufacturers.

In the price list of Stearns and White Co., Chicago, the description of one of their "specialties" reads:

> "Sulphozone.—This product is a compound and somewhat complex assimilation of natural gases acted on by Sulphur Dioxid in an aqueous solution, producing other gases of oxygen in reaction."

Evidently this is intended as a succedaneum for the late liquozone.

The composition of another "specialty" is thus given:

> "Modernopolt.—The body proper of this most excellent product is a clay formation of the Silician age—to which is added in suitable quantities Boric Acid

and Methyl Salicylate thoroughly incorporated in pure Glycerin and augmented by the valuable action of Camphophenique."

In the elegant and classic language of the editor of the *California State Journal of Medicine*, "Ain't it rotten, Rosie?"

Pharmacists and Postgraduate Courses.

Physicians have already demonstrated the value of well-organized local postgraduate courses and are extending and elaborating such work. That similar courses adapted to the profession of pharmacy would prove of value has been recognized by the Philadelphia branch of the American Pharmaceutical Association. The members of this body recently attended the first of a series of free lectures and demonstrations in the Postgraduate Course of Instruction for Local Pharmacists. The topic was "The Application of the Microscope in Pharmaceutical Practice," which was presented in detail by Professor Henry Kraemer. These lectures offer a valuable and unique opportunity to those pharmacists who are interested in the professional side of their work, and the Philadelphia pharmacists are to be commended on the progressive step they have taken. It is to be hoped that this work may be extended all over the country, and become a permanent feature in local pharmaceutical societies. It is needed.

Correspondence

A Plea for Esperanto in International Medicine.

LEWIS, Kan., Nov. 16, 1908.

To the Editor: I wish to answer your Paris correspondent's question in THE JOURNAL, Oct. 10, 1908. Speaking of the advantages accruing from the use of only one language in international medical congresses, he says: "The ideal, however, would evidently be to adopt for communications and for discussions a single language, as has been done for international relations. Some believe that only a new, artificially created language, such as Esperanto, is capable of answering the requirements; but is it not chimerical to think of adopting an artificial language when it would be much simpler to use a living one?" Then he goes on to urge the use of French.

Certainly, one can not deny that one language only would be the ideal—not only for medical, but for all international relations—but with the correspondent's conclusion as to French and Esperanto, many will take issue, even many who are not partisans of the latter. It is strange that any one living in this age of invention, using daily the railway, telephone, automobile, and the thousand other artificial improvements, should object to an artificial language. In our utilitarian world the only questions that should be considered in selecting a tongue for international use are:

1. Does it answer all requirements of communication as well as or better than any other?

2. How does it compare with others in difficulty of acquirement?

3. What are the relative obstacles in the way of its adoption by all nations?

I submit that the only language that satisfactorily fulfils the above demands is Esperanto, because:

1. Four great international world congresses have fully shown that Esperanto is adequate to express ideas of every character. Technical terms already used internationally are changed only enough to make them conform to the Esperanto endings. Medical writers will find that Esperanto will convey as clearly as German all shades of meaning.

2. That Esperanto is more easily learned than any other modern language is due to the fact that the obstacles met with in most modern languages do not exist in the new tongue: (a) The spelling is absolutely phonetic and deals with elementary sounds easily acquired by any one, no matter what his native language. Experience has shown that people of all nationalities pronounce this language with the least residual native accent. (b) There are no exceptions to any grammatical rule and only 16 rules! (c) There are no irregularities of word formation, and the inflections for person, number, case, tense, etc., are reduced to a minimum. (d) There are few synonyms and no words with the same sound and different meanings, except as the unforeseen results of word building. (e) It is more widely international in its elements than any other tongue. (f) It has a system of word building which renders it one of the most flexible mediums in the world for exact and varied expression, and at the same time does away with five-sixths of the vocabulary ordinarily to be memorized by the student of a new language.

3. Having no race prejudices or national jealousies to combat, as any national tongue will always have, Esperanto has a great advantage in the race for international preferment.

I have learned more Esperanto in eleven months (since I first took it up from reading the note in THE JOURNAL, Nov. 30, 1907) in the odd moments of a busy practice than I have been able to learn of French and German since I began their study in college in 1893. In the brief period named I have learned to read Esperanto readily without dictionary, to write it easily and to speak it slowly. That is many times as well as I have done with either of the other languages. Frankly, I doubt if I ever could master the French pronunciation or the German gender and construction. And a lot of smarter people than I am are in the same fix.

ELMER E. HAYNES, M.D.

Instruction on Medical Ethics.

NEW YORK, Nov. 16, 1908.

To the Editor: I am repeating this season the course of instruction in the Principles of Medical Ethics, which was received with enthusiasm by the members of the graduating class last year. Only two or three sections of the booklet are considered at one time, and this after the completion of a lengthy conference on practical surgical topics. The same enthusiastic interest is displayed now by the students that characterized the last year's course. The students are anxious, indeed, for copies of the Principles of Medical Ethics, so that they may be able to follow the instructions with greater advantage to themselves, for obvious reasons. I, therefore, request that you will send me for use a copy for each member of the graduating class. It is much better to place them thus early in hand than to wait until after graduation. This course of action is so obvious as to need no further remark. As soon as suitable progress is made in this manner I will again request of the students individual queries bearing on medical ethics which may occur to them to make. No doubt the illuminating experience in this regard which developed further need for this deviation in the manner of instruction last term will be equally manifest again. I hope that all other institutions engaged in medical instruction will see the need of this ennobling activity and accordingly enter on it. It is far better, it seems to me, to start aright in this field of professional adornment, with early success, than later to labor harder with a comparatively disappointing outcome. In any event, I am anxious that the medical man graduating from the college which I have the honor to represent shall be afforded the opportunity to become as gracious and just in manner and method as he is equipped in professional attainments.

JOSEPH D. BRYANT.

[COMMENT: The above is published because it comes from one who has had experience in discussing, before senior medical students, the philosophy of ethics as it relates to medicine and because it gives us opportunity to call the matter to the attention of those in other medical colleges who are interested in the subject. As heretofore, the American Medical Association stands ready to supply, without charge, to the authorities of every medical school, a sufficient number of copies of the Principles of Medical Ethics so that one may be placed in the hands of each senior student. We have usually sent out these copies in February, but we think an earlier distribution, as suggested by Dr. Bryant, is an improvement. Authorities of medical schools may therefore apply at once for the number desired. It is hoped, however, that something more will be done than merely to distribute booklets. No medical college should allow its graduates to enter on their life work unless they have received at least one lecture on ethics as it relates to medicine and to medical conduct. In this connection we call attention to an editorial in this issue.—Ed.]

A Literary Description of the Psychic Phases of Tuberculosis.

Chicago Heights, Ill., Nov. 10, 1908.

To the Editor:—The remarkable paragraph by Charles Dickens which I enclose occurs in "Nicholas Nickleby," forty-ninth chapter, third paragraph. It seems to be noteworthy, not only on account of the beautiful use of language, but also as a description which leaves little doubt as to the nature of the disease.

"There is a dread disease which so prepares its victim, as it were, for death: which so refines it of its grosser aspect, and throws around familiar looks unearthly indications of the coming change—a dread disease, in which the struggle between soul and body is so gradual, quiet, and solemn, and the result so sure, that day by day, and grain by grain, the mortal part wastes and withers away, so that the spirit grows light and sanguine with its lightening load, and, feeling immortality at hand, deems it but a new term of mortal life—a disease in which death and life are so strangely blended, that death takes the glow and hue of life, and life the gaunt and grisly form of death—a disease which medicine never cured, wealth warded off, or poverty could boast exemption from—which sometimes moves in giant strides, and sometimes at a tardy sluggish pace, but, slow or quick, is ever sure and certain."

E. M. Barnes.

Medical Economics

A GENERAL PLAN FOR A SCHEDULE OF MEDICAL FEES.

By J. N. McCormack, M.D.

BOWLING GREEN, KY.

I have long held the opinion that it was feasible to frame a plan for a schedule of medical fees which could easily be modified, as to the amount of the charges and other details, to meet the conditions and needs of almost any county or locality in any section of the country. As the plan I have in mind would be for the information, guidance and benefit of the public quite as much as of the profession, it involves conferences and a full understanding with the people of the community beforehand, as well as the fullest possible publicity afterward, through the public press, placards in each office, and otherwise, the explanatory footnote being made an essential part of every publication.

One of the main difficulties about this in the past has been the almost universal, but wholly erroneous, opinion and insistence on the part of both profession and laity that all the physicians of a community have an equal value and should make the same charge for their services. We know full well, and in a way and to an extent that the people can not, that nothing could be further from the truth. Because of the faulty system of medical education, loose medical laws, and lack of local organization and incentives to study, in vogue in this country until recent years, there are regularly licensed physicians in almost every community in the United States, in cities and towns quite as abundantly as in the country districts, who are well paid for all they know or can do for their patrons when they receive anything, and I insist that the time has come for us to deal frankly and openly with each other and the public about this and all other matters of common interest. It is essential to the success of such a plan, too, that we abandon once and forever the antiquated notion of penalties for those who do not live up to the schedule or blacklists for those who do not pay for services. Such harsh methods are contrary to the spirit and purposes of real organization and, in the very nature of things, can only be productive of misunderstandings and odium.

I have made rate-cutting and cheap doctors a matter of special study in every section of the country for years, and have come to have much sympathy for this class. On getting down to bottom facts, I have always found that they charged less for their services because they honestly knew, better than any one else did or could, that they were worth less than their competitors, and that this was their only chance to obtain or hold practice. There may be exceptions to this, but I have never found one that would bear investigation. They have my sympathy for another reason. As with the division of fees and commissions, contract and lodge practice, the use of proprietaries and nostrums, and similar mistaken practices and policies, all more hurtful to the people than to the profession, the fault is far more with the schools which pretended to educate these men than with them. In fact, without proper instruction about these matters during student life, so as to make it a part of their very being, just as important to the future physician and his patrons as instruction in anatomy or physiology, and sometimes with bad examples from their teachers to start them in the wrong direction, the wonder is that more of them do not do worse. These are just the men who most need the uplifting influences of county societies and postgraduate courses, they are actual entities with which we must live, associate or contend, and with tact and judgment many of them can be made competent. To suspend or expel them is far more of a punishment to their innocent patrons than to them, and it destroys the only chance of reclaiming them.

What is first and most needed in dealing with this class, for their own good as well as of the people, is to raise their earning capacity, to make them better practitioners and better men, by means of consistent, persistent postgraduate study, and by the influence and example of the higher grade members, in every county society and in such intercourse as comes in daily practice, and then in leading them to the adoption of systematic business methods and aiding them in other ways in securing better compensation. If we could substitute common sense plans of cooperation, the idea of a real community of interests, of practical, kindly helpfulness, such as is common between lawyers, in the place of the habit of fault-finding, jealousy and aloofness which is still as easy to find as it is disgraceful between the physicians of many communities, the difficulties of this entire problem would be reduced to a minimum.

The county societies and postgraduate courses furnish the facilities for doing the scientific and social features of this work. For the business side of it I am advising that the profession in each county or city consider the advisabality of arranging for systematic monthly collections, with a carefully selected business representative, and a centrally located "medical collector's office," the collector to be under bond, and on a definite salary, and with authority to appoint as many assistants as may be necessary, for whom he is responsible, very much as sheriffs and city collectors do The collector should be a man of tact and judgment, he should hold the affairs of each physician as strictly private and confidential, and he should be well paid. This plan should not be tried anywhere until good scientific work is well under way and a spirit of harmony secured, until all of the details have been worked out with the kind of business representatives indicated, and until public sentiment is prepared for it. Even in large cities the plan is worthy of consideration for colony and office buildings, wards or other convenient groups, if it can not be made available for the entire profession. It will not be easy to do these things in any community, in fact, it is never easy to do any important reform work which is worth doing, but with such preparatory work as has been suggested, and with tact and judgment in the earlier steps, I am convinced that the plan could be made as pleasant and convenient for the people as it would be helpful and profitable to the profession.

In most parts of the northwest and on the Pacific Coast the rate of charges sanctioned by custom is sufficient to sustain a competent and equipped profession, but in many sections of the eastern, middle and southern states, outside the large centers of population, and for a large part of the profession in them, all except the surgical fees are wholly inadequate, and this is operating to the disadvantage of both the profession and people now in a way unknown to our forbears. This country in recent years has passed through an era of most remarkable prosperity, but physicians and other professional classes have not shared in it With the cost of living almost doubled, and the cost of equipment for modern practice quadrupled, the income of medical men, except surgeons and specialists, has remained about stationary. Properly interpreted, poverty in the profession. and the lack of equipment and practical incompetency inseparable from it, is just as important to the public as to us, and the subject should be boldly discussed in public meetings and in the periodical and daily press until this real, positive danger to the people is a matter of common knowledge. Not only the higher standard of competency, but the increased usefulness of the profession in other ways should be made plain. It now probably does more real charity than all the other vocations combined, but the generous support to which it is entitled, and which is demanded by the highest humanitarian interests, would enable it to do a systematic, intelligent, discriminating relief work which is now impossible. To an extent not dreamed of by the laity, or even by many in the higher ranks of the profession, a large per cent. of the physicians in this country, in cities and towns as well as in the rural districts, on account of poverty and the pressing needs of their own families, are daily forced to take what is almost blood-money from a class of widows, teachers and working-women, in their times of affliction, whose incomes are so scanty when well, that it would and should be an honor and a pleasure to make them the special wards and beneficiaries of a properly supported profession.

The opportunity has come to me to study this whole question as no other man probably has ever been able to do I am giving the results of this broad experience in my public talks every evening, and find, in the lay discussion which follows, that the people can be made to appreciate our difficulties and their dangers quite as readily as can the profession. In truth, unpleasant as is the admission, the trouble is with us and not with the public, as is true in regard to almost every other evil from which we suffer. If the physicians competing for the same practice in every section of the United States could really get together in all these matters, and then take the people into their confidence, the balance would be comparatively easy, as there are not enough of them to do the practice if every patient was given the time, and the kind of scientific examination and treatment, to which they are entitled

For many reasons, any schedule intended for general adoption should cover only the ordinary fees for general practitioners and non operative office work. Surgical fees are usually the subject of special arrangement, and, anyway, they vary to such an extent that an attempt to include them would give the public an exaggerated and misleading notion of what is received by the ordinary surgeon, or by any of them except under extraordinary circumstances, and would do more harm than good As a rule, too, surgeons and specialists are better paid and are well able to take care of themselves. Besides, my experience has convinced me that it is in the field of general and office practice, with the hard worked and underpaid ordinary practitioners, that the pressing need for reform exists.

For obvious reasons the schedule should be adopted by the profession as a whole, or as individuals, and not by the county society. The provision in the by-laws forbidding such action by the societies was inserted after careful consideration, was certainly wise under the conditions then and still existing, and probably should be permanently retained. The membership in most societies embraces only about from one half to three-fourths of the physicians of the county. While it is probable that all, including the former sectarians, will finally come in, this will be the work of years, and although not absolutely essential, it is important that the schedule be agreed to practically by all of the active physicians of the jurisdiction, whether members or not Besides, this has been one of the most fruitful sources of discord in societies in the past, often provoked by those who took least interest in the scientific proceedings.

With all the foregoing considerations in mind, and after the matter has been fully discussed with the people. the schedule and footnote, in their main features, are suggested only as the basis for discussion. The rate of charges will seem too high for some sections and entirely too low for others. I am proposing about what, in my judgment, would be fair and equitable at the present cost of living and equipment in the central, middle, western and southern states, but, of course, the exact fees and other details must be arranged for each community in accordance with what is deemed just and proper. The rates should not be too hard and fixed. There are people of moderate circumstances in almost every community, factory operatives and others, who ought to pay something, and yet should not pay full fees, and a wise discretion on this and similar points must be provided for in any plan which is to be comprehensive and successful.

The order of arrangement and the items of practice included are as seems best suited for most counties and communities, but the purpose is to make it so simple and flexible that it can be altered to suit varying conditions and views. For instance, if it is thought best, fees for fractures and dislocations, or any other surgical or special work, can be easily added. It will be noted that a broad distinction is made between ordinary and complete office examinations, including a thorough examination of the chest, urinalysis and other like work involving extra time and skill. My own opinion is that a double charge should be made for night practice for well-to-do people, but I have yielded to the views of others on this point. Telephone practice is so annoying, exacting and unsatisfactory that it certainly should be paid for except where regular visits are being made, and in all cases after bed time. Consultations are purposely made low in order to develop and encourage this variety of practice

The form of schedule suggested and the footnote, as they should go on the placard, are as follows:

SCHEDULE OF MEDICAL FEES FOR ——— COUNTY.

1. Day visit in town	$2 00
2. Night visit in town	3.00
3. Day visit in country, first mile, $2 00; each after mile, one way	1.00
4 Night visit in country, first mile, $3 00; each after mile, one way	1.50
5. Ordinary office examination and advice	1.00
6 Complete examination and advice	5 00
7. Advice or prescription by telephone	1 00
8 Obstetric case, uncomplicated, not over 6 hours	15 00
9. Life insurance examinations	5.00
10. Consultation, double ordinary visit.	
11. Surgical and other special fees as may be arranged.	

EXPLANATORY NOTE.

This schedule of fees is purely advisory. It is arranged and published for the information and guidance equally of the profession and people It is intended to suggest the fees for ordinary services by competent physicians, for these fully able to pay their bills It in no way applies to practice for the deserving poor, of which all agree to do their full part It may be that physicians who are less competent will feel that they should charge less for their services This is recognized as just, and to do so will in no way affect either their society membership or professional standing It is especially important that these less fortunate members should have the benefit of the postgraduate study courses and other scientific work of the county society, which are free to all, for their own good as well as that of their patrons and regular attendance at these meetings should be made a condition of continued employment Night fees are made higher for many reasons, but more especially to give time for such study and society work as is essential in *keeping a physician* competent to practice with safety to the people

For the convenience and benefit of both the profession and its patrons systematic monthly collections, in so far as possible, are requested in the future It is believed that it will be more satisfactory to families to settle their accounts while they are small, and while they remember and are grateful for the services, and it will enable physicians to keep equipped for far better service

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POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR JOHN H BLACKBURN, DIRECTOR.
Bowling Green, Kentucky.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course]

Fourth Month: Third Weekly Meeting.

DISLOCATIONS.

Classification.—Compound. complicated, multiple, complete and incomplete. traumatic. pathologic, congenital, ancient or unreduced, recurrent. spontaneous.

Etiology.—Predisposing causes, anatomic peculiarities, age, sex, occupation; exciting causes, indirect or direct violence, muscular action.

Pathology.—Injury to ligaments and capsule, injury to bone and cartilage, to blood vessels, to nerves.

Treatment.—Anesthetic, reduction; obstacles to reduction, portions of capsule, muscle, tendon, bone.

Special Dislocations.

Lower Jaw.—Varieties, treatment.

Clavicle.—1. Sternal end: (a) forward, (b) upward, (c) backward. 2. Acromial end: (a) *supra-acromial*, (b) subacromial, (c) subcoracoid. Diagnosis and prognosis in each variety.

Shoulder.—Frequency, age, sex, character of injury. Pathologic anatomy. 1. Anterior or forward; (a) subcoracoid, (b) subclavicular. 2. Downward; subglenoid, with subvariety, *the erect*. 3. Posterior or backward: (a) subacromial, (b) subspinous. 4. Upward; supraglenoid. Diagnosis; (a) subcoracoid, *inspection*, palpation, abduction; Dugas' test. (b) Subclavicular. (c) Subglenoid, inspection, palpation, abduction, measurements. (d) Subspinous and subacromial. Diagnosis of complications. (a) Fracture of humerus. (b) Injury of vessels and nerves.

Elbow.—1. Of both bones of forearm: (a) Backward (backward and outward or backward *and* inward). Pathology, lateral ligaments, flexors and brachialis anticus, coronoid process; *fractures and* injuries to vessels and nerves. Diagnosis and treatment. (b) Lateral (incomplete inward and outward, or complete outward). (c) Forward (with or without fracture of olecranon). (d) Divergent (anteroposterior and transverse). 2. Of ulna alone (backward and upward). 3. Of radius alone (forward, backward and outward). 4. Unreduced dislocations of elbow. Due to interposed capsule. 5. Unreduced dislocations of elbow. Due to interposed capsule, muscle or bone. Treatment, arthrotomy.

Wrist.—1. Lower Radio-ulnar Joint. 2. Radio-carpal Joint. (a) Dorsal, backward dislocation. (b) Forward dislocation. 3. Carpal Bones. (a) Mediocarpal *joint*. *(b)* Isolated displacement. 4. Carpometacarpal Joints.

Phalanges.—1. Metacarpo-phalangeal Joints. (a) Thumb. Pathology and treatment. (b) Fingers. 2. Interphalangeal Joints of Fingers.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week *ending* Nov. 21, 1908:

Geddings, E. G., and Quinton, W. W., capts., ordered to report at Washington, D. C., for examination for promotion.

Cox, Walter, and Bispham, W. N., capts., ordered *to report* at Manila, P. I., for examination for promotion.

Persons, E. E., *capt.*, relieved *from duty* in *Philippines* Division; will sail Dec. 15, 1908, from Manila for San Francisco.

Worthington, J. A., first lieut., relieved from duty at General Hospital, Presidio of San Francisco, and assigned to duty as surgeon of transport *Crook*.

Pinkston, Omar W., first lieut., relieved from duty as surgeon of transport *Crook*.

Bloombergh, H. D., capt., *relieved from duty* at Fort Leavenworth, Kans., and ordered to San Francisco, to sail Jan. 5, 1909, for Manila, for Philippine service.

Purnell, H. I., capt., relieved *from* duty at Fort Mackenzie, Wyo., and ordered to San Francisco, for duty as surgeon of *the transport Thomas* on its next voyage; on arrival at Manila, to report for duty *in* Philippines Division.

Reasoner, M. A., first lieut., relieved from duty as surgeon of transport *Thomas*.

Jones, H. W., first lieut., relieved from duty as surgeon of transport *Buford* about *Jan.* 15, 1909, and *ordered* to the United States.

Harvey, P. F., col., left Chicago on leave of absence.

Ragan, C. A., capt., left Ft. Monroe, Va., on leave of absence for 10 days.

Appel, D. M., lieut.-col., granted leave of absence for 30 days.

Lemmon, R., M.R.C., granted an extension of 15 days to his *leave of absence*.

Guittard, A. M., M.R.C., ordered to active duty, and *directed* to proceed to Fort Logan, Colo., for duty.

Escobar, Julius A., M.R.C., fell into open well at Imus, Cavite, P. I., Nov. 15, 1908, *and* was drowned.

Slayter, John T. H., M.R.C., *honorably* discharged from the service of the U. S.

Dougherty, James C., M.R.C., ordered to active duty *at* the expiration of his present *leave of* absence.

Murray, Wilson, M.R.C., *ordered to* active *duty at the* expiration of his present *leave of* absence, and *directed* to proceed to Fort William Henry Harrison, Mont., for duty.

Tignor, Edwin P., dental surgeon, ordered to Forts Howard and McHenry, Md., successively, for temporary duty.

Montgomery, W. O., and Mansfield, T. O., contract surgeon, contracts annulled, their services being no longer required.

Navy Changes.

Changes in the *medical corps, U. S. Navy*, for the week ending Nov. 21, 1908:

Dessez, P. T., P. A. surgeon, orders to the Pacific fleet modified; ordered to temporary duty *at the* Naval Hospital, Mare Island, Cal.

Anderson, F., *medical inspector*, detached from the Navy Yard, Mare Island, Cal., *and ordered to* command the Naval Hospital, Annapolis, Md.

Lowndes, C. H. T., surgeon, ordered *to the* Navy Yard, Mare Island, Cal., and to additional duty, in command of the Naval Medical Supply Depot at that place.

Vickery, E. A., P. A. surgeon, *detached* from the Naval Hospital, Annapolis, Md., and ordered to the Naval Hospital, Boston.

Fauntleroy, A. M., P. A. *surgeon, detached* from duty at the Naval Medical School Hospital, Washington, D. C., and ordered to duty at the Naval Hospital, Annapolis, Md.

Hayes, G. M., P. A. surgeon, unexpired portion of sick leave revoked; ordered to the Naval Recruiting Station, *Baltimore*.

Brooks, F. H., asst.-surgeon, detached *from* the Naval Hospital, Boston, Mass., and ordered to the Naval Recruiting Station, Cleveland, Ohio.

Munson, F. M., P. A. surgeon, detached from the First Torpedo Flotilla on board the *Decatur, and ordered to treatment* at the Naval Hospital, Canacao, P. I.

Kelly, H. L., asst.-surgeon, detached from the Naval Station, Cavite, P. I., and ordered to the *Decatur* for duty with the *First Torpedo Flotilla*.

Public Health and Marine-Hospital Service.

List of changes of stations and duties of commissioned and other *officers* of the Public Health and Marine-Hospital Service for the seven *days ended Nov. 18, 1908*:

Kerr, J. W., asst.-surgeon-general, detailed *to represent* the service at the *Convention* of Mayors of North Carolina at Charlotte, N. C., Nov. 17-18, *1908*.

White, J. H., surgeon, granted 8 days' leave of absence *en route* to join station.

Cumming, H. S., P. A. surgeon, granted 1 *month's* leave *of* absence from *Oct. 29, 1908*.

Billings, W. C., P. A. surgeon, detailed as a member of a revenue cutter service retiring board at Baltimore, Md., *Nov.* 18, 1908.

Francis, Edward, P. A. surgeon, granted 10 days' leave of absence from *Dec. 1, 1908*.

Burkhalter, J. T., P. A. surgeon, detailed as a member *of a revenue cutter* service *retiring* board at Baltimore, Md., Nov. 18, 1908.

Porter, Joseph Y., sanitary *inspector, title changed* to read "quarantine inspector," from Dec. 1, 1908.

Barnes, W., acting asst.-surgeon, granted 21 *days' leave of absence from Dec.* 10, 1908.

Blanchard, J. F., *acting* asst.-surgeon, granted *2 days'* leave *of* absence from Nov. 11, 1908.

Browne, R. W., acting asst.-surgeon, granted 29 days' leave *of* absence from Nov. 20, 1908.

Carter, P. I., acting *asst.*-surgeon, granted 5 *days' leave* of absence *from Nov.* 2, *1908*.

Curley, *C. P.*, acting asst.-surgeon, granted *3 days' leave of* absence from *Nov.* 18, 1908, under Paragraph *210. Service Regulations*.

Dynan, N. J., acting asst.-surgeon, *granted 1 day's extension of* leave *of absence on account* of sickness, Nov. 4, 1908.

Lyall, Robert, acting asst.-surgeon, *granted 4 days' leave of* absence from Nov. 6, 1908, without pay.

Marcoe, W. W., acting asst.-surgeon, granted 30 days' leave of absence from Dec. 2, 1908.

Stearns, H. H., acting asst.-surgeon, granted 28 days' leave of absence from Dec. 4, 1908.

Thompson, W. R. P., acting asst.-surgeon, granted 30 days' leave of absence from Nov. 23, 1908, 9 days with pay, and 23 days without pay.

BOARD CONVENED.

Board of medical officers convened to meet at the bureau, Nov. 23, 1908, for the purpose of making final revision of the regulations for the medical *examination of arriving aliens*. Assistant-Surgeon General H. D. Geddings, chairman; Surgeon George W. Stoner, Passed Assistant Surgeon J. W. Schereschewsky, Acting Assistant Surgeon, M. V. Safford, recorder.

Health Reports.

The *following* cases of *smallpox*, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, *during* the week ended Nov. 20, 1908:

SMALLPOX—UNITED STATES.

Arkansas: Sulphur Rock, Aug. 25-Nov. 9, 14 cases.

California: Cedarville, July 18-Nov. 6, 5 cases; San Francisco, Oct. 18-31, 19 cases.

District of Columbia: Washington, Oct. 24-31, 7 cases.

Illinois: Springfield, Oct. 22-29, 2 cases.

Indiana: Elkhart, Oct. 24-31, 3 cases; Lafayette, Oct. 26-Nov. 2, 4 cases; Terre Haute, Oct. 31-Nov. 7, 1 case.

Kansas: Topeka, Oct. 13-24, 1 case.

Kentucky: Covington, Oct. 24-Nov. 7, 2 cases.

Maine: Canadian Border, Nov. 8, 12 cases.

Montana: Butte, Oct. 20-27, 4 cases.

Ohio: Cincinnati, Oct. 23-30, 1 case.

Tennessee: Nashville, Oct. 24-31, 1 case; Stanton and vicinity, Sept. 10-Nov. 9, 21 cases.

Washington: Spokane, Oct. 24-31, 3 cases; Tacoma, Oct. 18-25, 1 case.
Washington: Spokane, e. 9mfwyp amfwy amfwy acmfwyp
Wisconsin: Manitowoc, Oct. 24-31, 2 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, Sept. 19-Oct. 3, 5 cases, 1 death.

SMALLPOX—FOREIGN.

Arabia: Aden, Oct. 12-19, 15 deaths.
Ceylon: Colombo, Sept. 19-Oct. 3, 38 cases, 10 deaths.
India: Bombay, Oct. 6-13, 2 deaths; Calcutta, Sept. 12-26, 4 deaths.
Indo-China: Saigon, Sept. 19-26, 2 cases.
Italy: General, Oct. 23-29, 14 cases; Naples, Oct. 17-24, 4 cases.
Mexico: Veracruz, Oct. 24, 1 case.
Peru: Lima, Oct. 19, 8 in lazaretto.
Russia: Moscow, Oct. 10-17, 9 cases, 2 deaths; St. Petersburg, Sept. 26-Oct. 10, 14 cases, 4 deaths.
Spain: Valencia, Oct. 17-24, 2 cases; Vigo, 1 death.
Zanzibar: Zanzibar, Sept. 14-21, 1 death.

YELLOW FEVER.

Brazil: Manaos, Sept. 26-Oct. 3, 2 deaths.
Ecuador: Guayaquil, Oct. 3-10, 1 death.
Mexico, Veracruz, Oct. 27, 1 case.

CHOLERA—INSULAR.

Philippine Islands: Manila, Sept. 19-26, 314 cases, 184 deaths; Sept. 26-Oct. 3, 67 cases, 33 deaths; Provinces, Sept. 19-26, 1,122 cases, 745 deaths; Sept. 26-Oct. 3, 1,666 cases, 977 deaths.

CHOLERA—FOREIGN.

Ceylon: Colombo, Sept. 19-26, 2 cases.
China: Shanghai, Oct. 13, present.
India: Calcutta, Sept. 12-26, 13 deaths; Rangoon, Sept. 26-Oct. 3, 5 deaths.
Indo-China: Cholen, Sept. 19-26, 7 cases, 7 deaths.
Japan: Moji, Oct. 22, present.
Russia: St. Petersburg, Oct. 27-Nov. 2, 142 cases, 80 deaths.

PLAGUE.

Brazil: Maranhao, Oct. 20, present.
Chile: Iquique, Oct. 6, 1 case in lazaretto.
Ecuador: Guayaquil, Oct. 3-10, 1 death.
India: General, Sept. 19-26, 3,033 cases, 2,162 deaths; Bombay, Oct. 3-13, 10 deaths; Calcutta, Sept. 12-26, 12 deaths; Rangoon, Sept. 26-Oct. 3, 2 deaths.
Indo-China: Cholen, Sept. 19-26, 9 cases, 8 deaths; Saigon, 12 cases, 9 deaths.
Peru: General, Sept. 29-Oct. 7, 28 cases, 16 deaths; Callao, 1 case, 1 death.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

CALOMEL WITH LEMONADE AND WITH CHLORIN.

ROANOKE, VA., Nov. 14, 1908.

To the Editor:—1. Is there any danger in prescribing calomel and lemonade simultaneously? 2. Is there any danger in giving calomel and chlorin water simultaneously? JAMES H. DEYERLE.

ANSWER.—1. Calomel is acted on very slowly by non-oxidizing acids, so there need be no fear of an injurious result, under ordinary conditions, from the administration of lemon juice and of calomel.

2. Chlorin water is an oxidizing agent and converts calomel into corrosive sublimate by the addition of chlorin. $HgCl + Cl = HgCl_2$. There is, therefore, considerable danger that the calomel will be changed into poisonous corrosive sublimate (mercuric chlorid) if chlorin water is given at the same time.

SPIROCHETES IN THE LUNGS.

ROSEDALE, MISS., Nov. 8, 1908.

To the Editor:—Please inform me if there are any reports of cases of spirochetal infection of the lungs.

WILLIAM B. JOHNSON.

ANSWER.—There are, of course, no recorded cases of chancre of the lungs, so there are no reports of primary infection of the lungs with the *Spirochæta pallida*. So far as we know, there are no reports of the finding of spirochetes in gummata of the lungs in acquired syphilis. Syphilitic lesions in the lungs are very uncommon and it is also difficult to find spirochetes in gummata. They are, however, occasionally found in gummata and there is no reason why they should not be found in gummata of the lung. In congenital syphilis the spirochetes have been found repeatedly in the lungs. In Hoffman's "Atlas," Plate 21, Figures 1, 2 and 3 show spirochetes in the lung of a subject of congenital syphilis.

MEDICINAL ACTION OF CHROMIUM SULPHATE.

PHILADELPHIA, Nov. 12, 1908.

To the Editor:—Please tell through the columns of THE JOURNAL, what, if any, medicinal action chromium sulphate has. R. T. D.

ANSWER.—Most authorities do not mention the chromium salts or else state that they are not used in medicine. Experimental evidence regarding the pharmacologic action appears to be lacking. L. Kolipinski (*Month. Cycl. and Med. Bull.*, September, 1908) in a recent article makes the statement, which he says is unconfirmed by others, that chromium sulphate is not poisonous and may be given in doses of eight grains three times a day. He has observed no unpleasant by-effects. He claims to have used it with success in various affections, and makes the remarkable statement that locomotor ataxia is curable by the drug. In view of the actively poisonous character of the chromates it is advisable to use even chromium sulphate with caution.

INDIGO-CARMINE AND METHYLENE-BLUE TESTS FOR KIDNEY FUNCTION.

KANSAS CITY, MO., Nov. 12, 1908.

To the Editor:—Has THE JOURNAL described the technic of the methylene-blue test of Achard and the indigo-carmine test of Voelcker and Joseph for ascertaining the functional activity of the kidneys? B. CLARK HYDE.

ANSWER.—The indigo-carmine test is described in THE JOURNAL, Jan. 2, 1904, xlii, 69, in an abstract of an article by F. Voelcker and E. Joseph (*München. med. Wchnschr.*, l, No. 48). It consists essentially of introducing hypodermically 4 c.c. of a 4 per cent. solution of indigo-carmine and observing through the cystoscope the excretion of blue urine from one or both ureters; or the ureters may be catheterized and the urine from each collected separately. Kapsammer prefers the latter method. The methylene-blue method consists in the hypodermic injection of from 0.02 gm. to 0.05 gm. of methylene-blue. The excretion will begin in fifteen or twenty minutes in normal cases. Achard and Castaigne (*Bull. et mem. Soc. méd. d. hôp. d. Paris,* 1897, series 3, xiv, 1128) recommend the larger quantity, but Kapsammer prefers the smaller. For a full discussion of the subject see Kapsammer, "Nierendiagnostik und Nierenchirurgie," Part I, Vienna and Leipsic, 1907.

KERATINIZED CAPSULES OF IPECAC.

BRAINERD, MINN., Nov. 12, 1908.

To the Editor:—In the *Archives of Internal Medicine,* June, 1908, in an article on "Early Diagnosis and Treatment of the Presuppurative Stage of Amebic Hepatitis," Dr. Leonard Rogers of Calcutta, India, recommends the administration of ipecac in keratinized capsules. This method appealed strongly to me. During the past two months I have added "keratinized" capsules to our monthly hospital requisition, but each time reply has come back that the desired capsules could not be obtained. Can you give me the address of some dealer who handles them?

C. F. KARSHNER, M.D.

ANSWER.—We have been unable to learn that keratinized capsules are on the market. Pharmaceutical manuals, however, give methods by which any competent pharmacist may easily coat pills with keratin. In brief, the process consists in making a solution of keratin (preferably the variety of keratin which has been treated with pepsin to free it from pepsin-soluble material, and which is sold as pepsinized keratin) either in dilute acids if the pill mass resists the action of acids or in a weak alcoholic solution of ammonia if the pill mass resists alkalies. The pills are then given several coatings of this keratin solution. The following directions for the coating of pills with keratin are taken from "Prescription Practice and General Dispensing," by J. H. Beal, pages 125-126:

"To coat pills with keratin, a solution of the substance is made by heating it with a mixture of equal parts of ammonia water and dilute alcohol, or with dilute acetic acid, sprinkling the pills with the solution and rolling them in a porcelain capsule and drying. From eight to ten applications must be made to render the coating effective. The pills must not be made with an aqueous excipient, or they will contract and the coating crack. Cacao butter, or a mixture of cacao butter and yellow wax should be used. The conspergent should be either dry kaolin or powdered charcoal, and not a vegetable powder."

THE PARAFFIN IN THE BISMUTH PASTE.

WAKEFIELD, NEBR., Nov. 12, 1908.

To the Editor:—In the article on "Bismuth Treatment of Sinuses," in THE JOURNAL, March 14, 1908, p. 868, appears the following "Formula of Paste for Late Treatment:"

	gm.
Bismuth subnitrate	30
White wax	..
Soft paraffin āā	5
Vaselin	60

According to the U. S. Dispensatory, soft paraffin, petrolatum molle and vaselin are identical preparations. Still it is evident *that soft paraffin in the above formula refers to some other preparation than vaselin.* Kindly inform me what preparation of paraffin is intended.

A. E. ENGZELIUS.

Answer.—Petrolatum, also called vaselin, is a semi-solid substance, a product of petroleum deodorized, and produced after the lighter oils have been distilled off. Paraffin is a wax which is obtained by pressing the oil and has a much higher degree of hardness. The various grades of paraffin differ only in their degree of hardness, the melting points ranging from 90 to 140 degrees F. Dr. Beck states that he uses a paraffin which has a melting point of 120 degrees F. The addition of this paraffin in formula No. 2 is for the purpose of obtaining a firmer paste (one that will not melt at body temperature), which will occlude fistulous tracts and be retained in them as long as the body temperature remains normal.

PHENOLPHTHALEIN.

————, Conn., Nov. 2, 1908.

To the Editor:—Please discuss phenolphthalein, its physiologic action on the bowels, its dosage, and the best method of administration.

W. H. Y.

Answer.—A full account of the properties and action of phenolphthalein was published in this department, March 30, 1907. It is also described in "New and Nonofficial Remedies," a copy of which will be sent on receipt of 6 cents. This drug must be considered as one of the valuable contributions of chemical industry, and its importance justifies a recapitulation of our knowledge regarding it.

Phenolphthalein is a yellowish, tasteless powder, slightly soluble in water, readily soluble in alcohol and in aqueous solutions of hydroxids and carbonates. The investigations of Vamossy, Dornblüth, Tunnicliffe and others indicate that it is a safe cathartic, acting without pain in from four to six hours and leaving less tendency to sluggishness of the bowels as an after-effect than most cathartics. So far as our present knowledge goes it produces no noticeable physiologic effect except that of a purgative. When absorbed it is excreted in the urine generally unchanged in chemical character, but sometimes in combination so that its characteristic color with alkalies is only shown after the combination is broken up by heating with an acid. So far as known it does not irritate the kidneys. While overdoses may produce toxic effects by hypercatharsis no fatal case of poisoning has been reported. In one case mild toxic effects followed a dose of 1 gm. (15 grains). The dose generally recommended varies from 0.06 gm. (1 grain) to 0.3 gm. (5 grains), but it must be borne in mind that certain individuals possess a marked idiosyncrasy to phenol compounds and that in such cases phenolphthalein should be prescribed at first with caution. In most cases a dose of 0.13 gm. (2 grains) is well borne and frequently is ample. It may be given with safety in doses of 0.5 gm. (7¼ grains) and these doses seem to be necessary to secure its effect in bedridden patients or in obstinate cases. It is best given in the form of powders, capsules, pills or tablets. For example:

gm.
℞
Phenolphthalein ....4 | or ʒi
Div. in capsules vel pulveres No. xx.
Sig.: One capsule or powder at bedtime when necessary.

CHROMATIC ABERRATION.

Philadelphia, Nov. 3, 1908.

To the Editor:—While crossing a railroad track this evening, I observed what was to me a very interesting ocular phenomenon. It may be well known to oculists, but I do not recall mention of it in any text-book. The phenomenon was as follows: About fifty yards away I saw a purple signal light surrounded by a blue radiation. I have a considerable degree of astigmatism and wear the usual correcting lens. I removed my glasses and the light appeared as a broad, horizontal line of bright red intersecting a vertical line of pure blue—the two primary colors, of course, which together form purple. I shall be glad of an explanation of the phenomenon.

H. L. Bates.

Answer.—Purple is composed of blue and red, which are refracted at different angles, so that they come to a focus at different distances from the cornea, the blue having a shorter focal distance than the red. In a normal eye the rays are mingled, as the focal distance of the retina is not exactly equal to that of either red or blue. In a myopic eye the red rays, having the longer focal distance, will reach the retina (which is placed at a greater distance from the cornea in the myopic eye than in the normal one), while the blue rays come to a clear focus only at the periphery of the fields of vision. Consequently, a person with myopia who looks at a purple light sees a red center surrounded by a blue ring. One who is hyperopic sees a blue center surrounded by a red ring. Our correspondent undoubtedly has some myopia in addition to his corrected astigmatism. When he removed his glasses the astigmatism came into play; and, as one or both eyes were shorter in the vertical than in the horizontal axis, the blue rays reached the retina in the vertical meridian and the red rays in the horizontal one. The property by which purple is thus analyzed by the eye is made use of in the chromatic aberration, or cobalt blue glass test. Cobalt blue is essentially a purple, which absorbs all light except red and blue. If such a glass is placed before an eye under the influence of a mydriatic, the following phenomena will be observed: 1. The normal eye perceives a purple spot. 2. The hyperopic eye perceives a red ring with a blue center. 3 The myopic eye perceives a blue ring with a red center. 4. An astigmatic eye perceives various other arrangements of blue and red. Descriptions of this test may be found in "Refraction of the Eye," (p. 126) by Ernest Clarke, published by William Wood & Co., and in "Refraction and How to Refract" (ed. 2, p. 143), by James Thorington, published by P. Blakiston's Son & Co., as well as in other works on ophthalmology.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

California: Los Angeles, Dec. 1. Sec'y., Dr. Charles L. Tisdale, Butler Bldg., San Francisco.
Delaware: Regular, Dover; Homeopathic, Wilmington, Dec. 8-10. Sec'y. of Medical Council, Dr. Henry W. Briggs, Wilmington.
Iowa: Capitol Building, Des Moines, Dec. 8-10. Sec'y., Dr. Louis A. Thomas.
Maryland: Baltimore, Dec. 8. Sec'y., Dr. J. McPherson Scott, Hagerstown.
Maryland: Homeopathic, Baltimore, Dec. 8. Sec'y., Dr. J. S. Garrison, 848 W. North Ave., Baltimore.
New Hampshire: Concord, Dec. 29-30. Regent, Mr. H. C. Morrison.
Ohio: Columbus, Dec. 8-10. Sec'y. Dr. George H. Matson.
Pennsylvania: Musical Fund Hall, Locust St., Philadelphia, Dec. 1-4. Sec'y. of Medical Council, Dr. N. C. Schaeffer, Harrisburg.
Virginia: Lynchburg, Dec. 15-18. Sec'y., Dr. R. S. Martin, Stuart.

Work for a Standard Curriculum in Medical Colleges.

During the present period of reconstruction in medical colleges, probably no work is more important than that of preparing a standard medical curriculum which is based on an exhaustive study of present conditions and the requirements of modern medicine. Without such a standard there is danger that by some colleges too much stress may be laid on preliminary education, others may over-develop the scientific fundamental branches, while others may emphasize too much the clinical side of medical teaching.

The ideal medical curriculum would be one not so overcrowded as to prevent the best work but one which would furnish the best training and equipment for practitioners in medicine. So extensive has become the domain of medical knowledge that it is necessary to point out clearly what subjects should be required and what should be electives. Of the required subjects it should also be stated how much emphasis should be laid on each.

Among the electives would naturally come many of the courses on the specialties; laryngology, rhinology, ophthalmology, otology, etc., although a certain knowledge of all these subjects is necessary to every general practitioner. Among the specialties of modern medicine might well be included the positions of laboratory instructors which now demand men who are experts in their particular subjects. Such courses and research work as are intended to prepare men for these positions would naturally come among the electives and not in the required courses.

With the object of securing a standard curriculum the Council on Medical Education decided to ask the cooperation of a large number of educators representing every phase of the subject. A committee of one hundred, therefore, has been appointed which is divided into ten subcommittees, each subcommittee to cover a certain division of the curriculum. These subcommittees are now actively at work, and it is expected that the complete report will be presented at the next conference of the Council, April 5, 1909.

The following constitutes the personnel of the committee:

SECTION 1.—ANATOMY, INCLUDING HISTOLOGY AND EMBRYOLOGY.

Chairman: Charles R. Bardeen, M.D., Professor of Anatomy, University of Wisconsin, College of Medicine, Madison, Wis.

Albert C. Eycleshymer, Ph.D., Professor and Director of the Department of Anatomy, Histology and Embryology, St. Louis University, Grand Ave. and Carolina St., St. Louis.

Irving Hardesty, Ph.D., Assistant Professor of Anatomy, University of California, Medical Department, San Francisco.

G. Carl Huber, M.D., Professor of Histology and Embryology, University of Michigan, College of Medicine, 1330 Hill St., Ann Arbor, Mich.

George S. Huntington, M.D., Professor of Anatomy, Columbia University, 437 W. 59th St., New York City.

Clarence M. Jackson, M.D., Professor of Anatomy and Histology, University of Missouri, Medical Department, Columbia.

Thomas G. Lee, M.D., Professor of Histology and Embryology, University of Minnesota, College of Medicine and Surgery, 509 St. Anthony Parkway, S.E., Minneapolis.

Franklin P. Mall, M.D., Professor of Anatomy, Johns Hopkins University, Medical Department, 1514 Bottom St., Baltimore.

James P. McMurrich, Ph.D., Professor of Anatomy, University of Toronto, Medical Department, 576 Huron St., Toronto, Canada.

George A. Piersol, M.D., Professor of Anatomy, University of Pennsylvania, Department of Medicine, 4724 Chester Ave., Philadelphia.

SECTION 2.—PHYSIOLOGY AND PHYSIOLOGIC CHEMISTRY.

Chairman: Elias P. Lyon, Ph.D., Professor of Physiology, St. Louis University, School of Medicine, St. Louis.

Percy M. Dawson, M.D., Associate Professor of Physiology, Johns Hopkins University, Medical Department, Baltimore.

Otto Folin, Ph.D., Professor of Biologic Chemistry, Harvard Medical School, Longwood Ave., Boston.

Walter E. Garrey, Ph.D., Professor of Physiologic Chemistry, Cooper Medical College, San Francisco.

Winfield Scott Hall, M.D., Professor of Physiology, Northwestern University Medical School, 2431 Dearborn St., Chicago.

Frederic S. Lee, Ph.D., Professor of Physiology, Columbia University, College of Physicians and Surgeons, New York City.

Warren P. Lombard, M.D., Professor of Physiology, University of Michigan, College of Medicine, 805 Oxford Road, Ann Arbor, Mich.

Graham Lusk, Ph.D., Professor of Physiology, University and Bellevue Hospital Medical College, 338 E. 26th St., New York City.

Gustav Mann, M.D., Professor of Physiologic Chemistry, Tulane University of Louisiana, New Orleans.

Albert P. Mathews, Ph.D., Professor of Physiologic Chemistry, University of Chicago.

SECTION 3.—PATHOLOGY AND BACTERIOLOGY.

Chairman: William T. Councilman, M.D., Professor of Pathology, Harvard Medical School, 240 Longwood Ave., Boston.

J. G. Adami, M.D., Professor of Pathology, McGill University, Medical Department, Montreal, Canada.

W. M. L. Coplin, M.D., Professor of Pathology and Bacteriology, Jefferson Medical College, Tenth and Walnut Sts., Philadelphia.

Harold C. Ernst, M.D., Professor of Bacteriology, Harvard Medical School, 240 Longwood Ave., Boston.

James Ewing, M.D., Professor of Pathology, Cornell University Medical College, 256 W. 57th St., New York City.

Ludwig Hektoen, M.D., Professor and Head of the Department of Pathology, Rush Medical College, 5803 Washington Ave., Hyde Park, Chicago.

William T. Howard, M.D., Professor of Pathology, Pathological Anatomy and Bacteriology, Western Reserve University, 1838 E. 65th St., Cleveland, Ohio.

Richard M. Pearce, M.D., Professor of Pathology and Bacteriology, University and Bellevue Hospital Medical College, 338 East 26th St., New York City.

Aldred S. Warthin, M.D., Professor of Pathology, University of Michigan, College of Medicine and Surgery, 924 Baldwin Ave., Ann Arbor, Mich.

William H. Welch, M.D., Baxley Professor of Pathology, Johns Hopkins Medical School, 807 St. Paul St., Baltimore.

SECTION 4.—PHARMACOLOGY, TOXICOLOGY AND THERAPEUTICS.

Chairman: Torald Sollmann, M.D., Professor of Pharmacology and Materia Medica, Pharmacologic Laboratory, Western Reserve University Medical Department, Cleveland, Ohio.

John J. Abel, M.D., Professor of Pharmacology, Johns Hopkins University Medical School, Charles St. Ave., (P. O. Sta. L.) Baltimore.

Joseph A. Capps, M.D., Assistant Professor of Medicine, Rush Medical College, University of Chicago, 100 State St., Chicago.

David L. Edsall, M.D., Assistant Professor of Medicine, University of Pennsylvania, Medical Department, 1432 Pine St., Philadelphia.

Charles Wallis Edmunds, M.D., Junior Professor of Therapeutics and Materia Medica, University of Michigan, College of Medicine, 520 East Ann St., Ann Arbor, Mich.

John Taylor Halsey, M.D., Professor of Materia Medica, Therapeutics and Clinical Medicine, Tulane University of Louisiana, 124 Baronne St., New Orleans.

Egbert LeFevre, M.D., Professor of Therapeutics and Clinical Medicine, University and Bellevue Hospital Medical College, 52 West 56th St., New York City.

Eli H. Long, M.D., Professor of Materia Medica and Therapeutics, University of Buffalo, Medical Department, Buffalo, N. Y.

William DeBerniere MacNider, M.D., Professor of Pharmacology and Bacteriology, University of North Carolina, Chapel Hill.

Oliver Thomas Osborne, M.D., Professor of Materia Medica and Therapeutics, and Clinical Professor of Medicine, Yale Medical School, 252 York St., New Haven, Conn.

SECTION 5.—MEDICINE, INCLUDING PEDIATRICS AND NERVOUS AND MENTAL DISEASES.

Chairman: George Dock, M.D., Professor of Medicine, Tulane University of Louisiana, 124 Baronne St., New Orleans.

George Blumer, M.D., Professor of the Theory and Practice of Medicine, Yale Medical School, New Haven, Conn.

William Fitch Cheney, M.D., Professor of Principles and Practice of Medicine, Cooper Medical College, Shreve Bldg., San Francisco.

Henry A. Christian, M.D., Professor of the Theory and Practice of Physic, Harvard Medical School, 252 Marlboro St., Boston.

F. X. Dercum, M.D., Professor of Nervous and Mental Diseases, Jefferson Medical College, 1719 Walnut St., Philadelphia.

Frederick Forchheimer, M.D., Professor of Theory and Practice of Medicine and Clinical Medicine, Medical College of Ohio, Cincinnati.

Charles L. Greene, M.D., Professor of Medicine, University of Minnesota, College of Medicine and Surgery, Minneapolis.

L. Emmett Holt, M.D., Carpentier Professor of the Diseases of Children, Columbia University, College of Physicians and Surgeons, 14 W. 55th St., New York City.

John H. Musser, M.D., Professor of Clinical Medicine, University of Pennsylvania, Medical Department, Philadelphia.

W. Gilman Thompson, M.D., Professor of Medicine, Cornell University, Medical College, 34 E. 31st St., New York City.

SECTION 6.—SURGERY; GENERAL AND SPECIAL.

Chairman: Charles H. Frazier, M.D., Professor of Clinical Surgery, University of Pennsylvania, Department of Medicine, 1724 Spruce St., Philadelphia.

Dudley Peter Allen, M.D., Professor of the Theory and Practice of Surgery and Clinical Surgery, Western Reserve University, Medical Department, 1110 Euclid Ave., Cleveland, Ohio.

Joseph A. Blake, M.D., Professor of Surgery, Columbia University, College of Physicians and Surgeons, 601 Madison Ave., New York City.

Herbert L. Burrell, M.D., Professor of Clinical Surgery, Harvard Medical School, 22 Newbury St., Boston.

Frederick Henry Gerrish, M.D., Professor of Surgery, Medical School of Maine, 675 Congress St., Portland, Me.

William S. Halsted, M.D., Professor of Surgery, Johns Hopkins University, Medical School, Baltimore.

Rudolph Matas, M.D., Professor of General and Clinical Surgery, Tulane University of Louisiana, 2255 St. Charles Ave., New Orleans.

Lewis S. McMurtry, M.D., Professor of Abdominal Surgery and Gynecology, University of Louisville, Medical Department, The Atherton, Fourth and Chestnut Sts., Louisville, Ky.

William L. Rodman, M.D., Professor of the Principles of Surgery and Clinical Surgery, Medico-Chirurgical College, 1904 Chestnut St., Philadelphia.

Harry M. Sherman, M.D., Professor of the Principles and Practice of Surgery, University of California, Medical Department, 2210 Jackson St., San Francisco.

SECTION 7.—OBSTETRICS AND GYNECOLOGY.

Chairman: Joseph B. DeLee, M.D., Professor of Obstetrics, Northwestern University Medical School, 810-34 Washington St., Chicago.

John G. Clark, M.D., Professor of Gynecology, University of Pennsylvania, Department of Medicine, 2017 Walnut St., Philadelphia.

Edwin B. Cragin, M.D., Professor of Obstetrics and Gynecology, Columbia University College of P. and S., 10 W. 50th St., New York City.

J. Clifton Edgar, M.D., Professor of Obstetrics, Cornell University Medical College, 50 E. 34th St., New York City.

Charles M. Green, M.D., Professor of Obstetrics, Harvard Medical School, 78 Marlborough St., Boston.

James R. Guthrie, M.D., Professor of Obstetrics and Gynecology, State University of Iowa, Medical Department, 1005 Locust St., Dubuque, Iowa.

Ernest S. Lewis, M.D., Professor of Obstetrics and Gynecology, Tulane University of Louisiana, 124 Baronne St., New Orleans.

Reuben Peterson, M.D., Professor of Obstetrics, University of Michigan, College of Medicine, 620 Forest Ave., Ann Arbor, Mich.

Henry Schwartz, M.D., Professor of Obstetrics and Gynecology, Washington University, Medical Department, St. Louis.

J. Whitridge Williams, M.D., Professor of Obstetrics, Johns Hopkins University Medical School, 1128 Cathedral St., Baltimore.

SECTION 8.—DISEASES OF THE EYE, EAR, NOSE AND THROAT.

Chairman: George E. deSchweinitz, M.D., Professor of Ophthalmology, University of Pennsylvania, Department of Medicine, 1705 Walnut St., Philadelphia.

Diseases of the Eye.

Edward Jackson, M.D., Professor of Ophthalmology, University of Colorado, School of Medicine, 1434 Glenarm St., Denver.

Myles Standish, M.D., Assistant Professor of Ophthalmology, Harvard Medical School, 256 Newbury St., Boston.

William H. Wilder, M.D., Professor and Head of the Department of Ophthalmology, University of Chicago, 103 State St., Chicago.

Diseases of the Ear.

Clarence John Blake, M.D., Professor of Otology, Harvard Medical School, 226 Marlboro St., Boston.

B. Alexander Randall, M.D., Clinical Professor of Diseases of the Ear, University of Pennsylvania, Department of Medicine, 1717 Locust St., Philadelphia.

Frank C. Todd, M.D., Professor of Ophthalmology and Otology, University of Minnesota, College of Medicine, 304 Pillsbury Bldg., Minneapolis.

Diseases of the Nose and Throat.

Cornelius G. Coakley, M.D., Professor of Laryngology, University and Bellevue Hospital Medical College, 53 W. 56th St., New York City.

D. Braden Kyle, M.D., Professor of Laryngology, Jefferson Medical College, 1517 Walnut St., Philadelphia.

John N. MacKenzie, M.D., Clinical Professor of Laryngology and Rhinology, Johns Hopkins Medical School, 879 Park Ave., Baltimore.

SECTION 9.—DERMATOLOGY AND VENEREAL DISEASES.

Chairman: William A. Pusey, M.D., Professor of Dermatology and Clinical Dermatology, College of Physicians and Surgeons, 72 Madison St., Chicago.

John T. Bowen, M.D., Edward Wigglesworth Professor of Dermatology, Harvard Medical School, 14 Marlboro St., Boston.

William T. Corlett, M.D., Professor of Dermatology and Syphilology, Western Reserve University, Medical Department, 1935 Euclid Ave., Cleveland, Ohio.

Isadore Dyer, M.D., Professor of the Diseases of the Skin, Tulane University of Louisiana, New Orleans.

John A. Fordyce, M.D., Professor of Dermatology, University and Bellevue Hospital Medical College, 80 W. 40th St., New York City.

T. Casper Gilchrist, M.D., Clinical Professor of Dermatology, Johns Hopkins University Medical Department, 330 N. Charles St., Baltimore.

William A. Hardaway, M.D., Professor of Diseases of the Skin and Syphilis, Washington University, Medical Department, 4500 Olive St., St. Louis.

Milton B. Hartzell, M.D., Associate in Dermatology, University of Pennsylvania, Department of Medicine, 3644 Chestnut St., Philadelphia.

Douglass W. Montgomery, M.D., Professor of Diseases of the Skin, University of California, Medical Department, 2419 California St., San Francisco.

Grover W. Wende, M.D., Clinical Professor of Dermatology, University of Buffalo, Department of Medicine, 471 Delaware Ave., Buffalo, N. Y.

SECTION 10.—HYGIENE, MEDICAL JURISPRUDENCE AND MEDICAL ECONOMICS.

Chairman: F. F. Wesbrook, M.D., Professor of Pathology and Bacteriology, University of Minnesota, College of Medicine, Minneapolis.

Charles V. Chapin, M.D., Superintendent of Health, Providence, R. I.

Irving Fisher, Ph.D., Professor of Political Economy, Yale University, 460 Prospect St., New Haven, Conn.

John S. Fulton, M.D., Secretary-General, Sixth International Congress on Tuberculosis, 714 Colorado Bldg., Washington, D. C.

J. N. McCormack, M.D., Secretary Kentucky State Board of Health, Bowling Green, Ky.

C. O. Probst, M.D., Secretary Ohio State Board of Health, Columbus, Ohio.

M. P. Ravenel, M.D., Professor of Bacteriology, University of Wisconsin, Madison, Wis.

Franklin C. Robinson, A.M., Professor of Chemistry, Mineralogy and Natural Science, Bowdoin College, 214 Maine St., Brunswick, Me.

M. J. Rosenau, M.D., U. S. Public Health and Marine-Hospital Service, Washington, D. C.

Victor C. Vaughan, M.D., Professor of Hygiene and Physiologic Chemistry, University of Michigan, College of Medicine, Ann Arbor, Mich.

Massachusetts July and September Reports.

Dr. Edwin B. Harvey, secretary of the Board of Registration in Medicine, reports the written examinations held at Boston, July 14-16 and Sept. 8-10, 1908. The number of subjects examined was 13; total number of questions asked, 70; percentage required to pass, 75.

At the examination held July 14-16, the total number of candidates examined was 131, of whom 91 passed, including one non-graduate, and 40 failed, including 13 non-graduates. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Yale Med. School	(1908)	79.4, 80.6, 82.1
Medical School of Maine	(1904) 82; (1908)	79.1
University of Maryland	(1908)	79.3
College of P. and S., Baltimore	(1908)	75, 75, 77.5
Baltimore Med. Coll	(1907) 76.6; (1908)	75, 75, 79, 79.7
College of P. and S., Boston	(1908)	75, 75, 76.4, 82.4
Harvard Med. School	(1895) 80.3; (1907) 75.4, 76.7; (1908)	75, 75, 75.2, 76.7, 77.3, 78.1, 78.3, 80.1, 80.2, 80.6, 81.2, 81.5, 81.5, 82.4, 83.5, 86.
Boston University	(1908)	75, 75, 75.2, 76.2, 76.3, 76.3, 76.9, 77.7, 78.5, 79.7, 80.2, 81.1, 83.
Tufts Coll. Med. School	(1907) 76.2, 80; (1908)	75, 75, 75, 75, 75, 75.2, 75.5, 75.5, 75.8, 766.2, 76.2, 76.3, 76.5, 76.5, 76.6, 76.6, 76.7, 76.9, 78, 78.6, 78.7, 78.7, 78.7, 78.8, 78.8, 79.6, 81.2, 81.3, 83.2.
University of Minnesota	(1901)	78.2
College of P and S., New York	(1905)	78.3
University and Bellevue Hosp. Med. Coll.	(1900) 77; (1907)	76
New York Homeo. Med. Coll	(1905)	81.4
Western Reserve University	(1905)	80.6
Jefferson Med. Coll	(1908)	75, 81.3
University of Vermont	(1908)	77.1

FAILED.

College.	Year Grad.	Per Cent.
George Washington University	(1907)	71.7
Georgetown University	(1906)	71.7
Maryland Med. Coll	(1908)	60
Boston University	(1908)	54.5, 68.7
Baltimore Med. Coll.	(1905) 62.4; (1907) 67.6, 71.7; (1908)	60.9, 61.1, 69, 69.7, 71, 72.4.
Baltimore University	(1895)	36
College of P. and S., Boston	(1905) 63.5; (1908)	65.3, 66, 68.7
Tufts Coll. Med. School	(1908)	67, 72
North Carolina Med. Coll	(1904)	69.9
University of Vermont	(1906)	70.5
Laval University, Quebec	(1905)* (1908)	67.6
Imperial Alexanders Univ., Finland	(1902)	58.4
University of Naples, Italy	(1906)	67.5

At the examination held September 8-10, the total number of candidates examined was 65, of whom 35 passed, including one non-graduate and 30 passed, including 2 non-graduates. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
George Washington University	(1907)	75
Georgetown University	(1905)	77.1
Yale Med. School	(1907)	78.3
Rush Med. Coll	(1882)	76.5
National Med. University	(1908)	77.7
Baltimore Med. Coll	(1905) 75; (1908)	75, 78.5, 79.2
Harvard Med. School	(1906) 75.8, 79.6; (1907) 80.3; (1908)	75.7, 79.5, 79.8, 80.2.
College of P. and S., Boston	(1907) 75; (1908)	75, 75
Tufts Coll. Med. School	(1907) 77.7, 78.5; (1908)	75, 77.1, 77.5, 82.9.
Boston University	(1907) 75; (1908)	75
Dartmouth Med. School	(1908)	78
College of P. and S., New York	(1906)	78.2
Long Island Coll. Hosp	(1907)	78.2
Medico-Chirurgical Coll., Philadelphia	(1908)	78
Jefferson Med. Coll	(1906) 80.2; (1908)	78.7
Imperial Alexanders Univ. Finland, Russia	(1886)	75

FAILED.

College.	Year Grad.	Per Cent.
Georgetown University	(1906)	68.5
[illegible] Med. Coll	(1890)*	
[illegible] Coll	(1906)	72.5
Chicago Coll. of Med. and Surg	(1908)	68.2, 70.7
Tufts Coll. Med. School	(1908)	70, 72.5
Boston University	(1905)	68, 71.1
Baltimore Med. Coll.	(1905) 66.1; (1907) 68.5, 69.9; (1908)	67.9, 70.5, 71.8.
Baltimore University	(1895)	31.7
College of P. and S., Boston	(1905) 63.2; (1908)	58.8, 72.1
Hahnemann Med. Coll., Philadelphia	(1890)	53.4
University of Vermont	(1884) 64.9; (1907)	71.3
Laval University, Quebec	(1905)* (1908)	62.2
University of Palermo, Italy	(1891)	62.5
University of Naples, Italy	(1890)* (1895)	62.2
University of Tiflis, Russia	(1874)*	

* Did not complete examination.

Marriages

Ira M. Miller, M.D., to Miss Alice A. Starke, both of Chicago, October 21.

Alfred Ullman, M.D., Baltimore, to Miss Bertha Katz, at Philadelphia, November 12.

Daniel M. Kelly, M.D., Baraboo, Wis., to Miss O'Brien of Harvard, Ill., November 18.

G. B. Sims, M.D., Hastings, Neb., to Miss Olga Jacobsen, of Edgewater, Chicago, November 3.

Louis W. Eckles, Jr., M.D., Louisville, to Miss Glenna Lee Sells, of Anderson, Ind., November 11.

Charles M. Scott, M.D., Bluefield, W. Va., to Miss Hazel Morton, of Ashland, Ky., November 10.

Elliston J. Morris, M.D., Philadelphia, to Miss Josephine C. Mitchell, of New York City, November 11.

John Glenn Young, M.D., Pontiac Ill., to Miss Floy Martha Reynolds, of Genoa Junction, Wis., October 28.

Dennis A. Bethea, M.D., Terre Haute, Ind., to Miss Alice Blackman McLeod, of Dillon, S. C., November 11.

Josephus Tucker Ullom, M.D., Germantown, Philadelphia, to Miss Selena P. Hughes, at Philadelphia, October 15.

Ernest Leroy Bolton, M.D., to Miss Maude Mary Luce, both of Chilton, Wis., at Kewaunee, Wis., November 12.

Deaths

Thomas M. Wilson, M.D. Rush Medical College, 1906; a B.Sc. of the University of Toronto; and about to receive the degree of Ph.D. from the University of Chicago; an interne in the Presbyterian Hospital and instructor in pathology in the Chicago Veterinary College; who had devoted all his leisure for a year past to experiments in the laboratories of the McCormick Memorial Institute in an attempt to produce a serum to counteract the effect of the bacillus of glanders; died November 19, in the Presbyterian Hospital, from glanders, after an illness of three weeks, aged 38, a martyr in the cause of scientific research.

Adoniram Judson Gibbs, M.D. Pennsylvania Medical College, Gettysburg, 1857; a member of the American Medical Association; city physician and a member and formerly president of the board of health of Denison, Texas, and Eureka Springs, Ark.; formerly president of the Denison (Texas) and Eureka Springs and Carroll County (Ark.) Medical Society; surgeon in the Confederate service during the Civil War; formerly editor of the *Eureka Springs Medical Journal;* died at his home in Denison, November 12, aged 72.

Elihu T. Mendenhall, M.D. Medical College of Ohio, 1877; a member of the Indiana State Medical Association; a veteran of the Civil War; for two terms a member of the city council of New Castle, Ind.; for many years health officer of Henry county, and secretary of the local board of U. S. pension examining surgeons; died at Mechanicsburg, Ind., November 14, from disease of the stomach, aged 64.

Charles M. Gravis, M.D. Medical College of Indiana, Indianapolis, 1871; a member of the Indiana State Medical Association; a veteran of the Civil War; and treasurer of the local board of U. S. pension examining surgeons; medical director of Highland Sanitarium, Martinsville; died at his home in that city, November 11, from cerebral hemorrhage, aged 63.

Mark P. Perry, M.D. College of Physicians and Surgeons, Baltimore, 1884; formerly of Macon, N. C.; a member of the Medical Society of the State of North Carolina, and for six years its treasurer; the head of a hospital in Richwood, W. Va.; died in Johns Hopkins Hospital, Baltimore, November 9, aged 40.

Lyman R. Farr, M.D. Chicago Medical College, 1884; a member of the State Medical Society of Wisconsin; visiting physician to St. Mary's and the Strong Emergency hospitals, Beloit, Wis.; for a long time city physician of Beloit; died at his home November 12, from edema of the glottis, aged 46.

William Henry Long, Jr., M.D. College of Physicians and Surgeons, New York City, 1898; a member of the Medical Society of New Jersey; surgeon to the Somerset County Hospital and coroner and physician to Somerset county; died at his home in Somerville, May 20, aged 31.

Thomas J. Lipscomb, M.D. Medical College of the State of South Carolina, Charleston, 1857; a Confederate veteran; superintendent of the state penitentiary, Newberry, from 1878 to 1890; mayor of Newberry in 1898; died at his home in Columbia, S. C., November 4, aged 75.

Alonzo Pettit, M.D. University of Buffalo, N. Y., 1867; a member of the American Medical Association; one of the organizers of, and consulting surgeon, to the Elizabeth (N. J.) General Hospital; died at his home in Elizabeth, November 14, from heart disease, aged 66.

Charles Smith Boynton, M.D. Medical School of Maine, Brunswick, 1864; of Burlington, Vt.; adjunct professor of chemistry in the University of Vermont from 1890 to 1898; fell down an elevator shaft in Burlington, November 14, and was instantly killed, aged 72.

James E. Stanton, M.D. College of Physicians and Surgeons, Keokuk, 1872; a member of the Iowa State Medical Society; for more than fifty years a practitioner of Ohio and Chariton, Iowa; died at his home in Chariton, November 6, from cerebral hemorrhage, aged 80.

Levi Saunders, M.D. Harvard Medical School, Boston, 1857; common councilman of Gloucester in 1876 and alderman in 1877 and 1878; from 1879 to 1887 a member of the school committee; died at his home in Lanesville, Gloucester, Mass., November 11, aged 83.

Lucy M. Warner, M.D. Womans Medical College of Pennsylvania, Philadelphia, 1905; a member of the attending staff of the Wisconsin Northern Hospital for the Insane, Winnebago; died suddenly in that institution, November 11, from heart disease, aged 26.

Herman Cooper, M.D. Dartmouth Medical School, Hanover, N. H., 1883; a member of the American Medical Association; died at his home in Amesbury, Mass., from thrombosis of the pulmonary vein, and interstitial nephritis, November 10, aged 49.

Oliver W. Hatch (years of practice, Ind.); at one time secretary of the board of health of Elkhart; for more than half a century a practitioner of medicine; died at his home in Cassopolis, Mich., November 11, from pneumonia, aged 83.

William R. Schoonover, M.D. Kentucky School of Medicine, Louisville, 1876; of Warsaw, Ind.; physician to the Winona Assembly; died in the Northern Indiana State Hospital for the Insane, Longcliff, Logansport, November 12, aged 68.

Howard E. Gates, M.D. Long Island College Hospital, Brooklyn, 1861; a veteran of the Civil War, and for twenty-five years thereafter a practitioner of Litchfield, Conn.; died November 9, at his home in Colorado Springs, aged 69.

Samuel A. Mason, M.D. Memphis (Tenn.) Hospital Medical College, 1888; for thirty-three years a practitioner of Arkansas; shot and killed himself at his home in Hattiesville, November 9, while temporarily insane, aged 59.

Joseph Lavender Laxton, M.D. Washington University, Baltimore, 1868; a member of the Medical Society of North Carolina, and a Confederate veteran; died at his home in Morganton, November 11, from acute gastritis, aged 73.

Ogden Doremus King, M.D. Long Island College Hospital, Brooklyn, N. Y., 1884; a member of the Medical Society of the State of North Carolina; died at his home in Albemarle, November 11, from nephritis, aged 49.

George Corrie, M.D. Medical College of Virginia, Richmond, 1888; formerly of Back Bay, Va.; a member of the Medical Society of Virginia; died at his home in Knott's Island, N. C., October 10, from nephritis, aged 51.

Alexander Stilwell, M.D. University of Michigan, Ann Arbor, 1867; a member of the American Medical Association; since his graduation a practitioner of Dwaarkill, N. Y.; died at his home, November 7, aged 71.

Patrick Eugene Sullivan, M.D. College of Physicians and Surgeons, Boston, 1900; for six years ambulance surgeon of Lowell, Mass.; died at the home of his cousin in Lowell, November 10, aged 35.

Paul W. Kirkpatrick, M.D. Vanderbilt University, Nashville, 1893; of Alamogordo, N. M.; a member of the New Mexico Medical Association; died in Mexico from tuberculosis, November 7, aged about 40.

Charles Herbert Brereton, M.D. Medical Department Victoria College, Toronto, 1868; M.C.P.&S., Ont., 1868; of Bethany, Ont.; died at the home of his son in Carnduff, Sask., September 6, aged 63.

Riley Wiltshire Cavins, M.D. Indiana Medical College, Indianapolis, 1872; of Sterling, Kan.; died at the home of his mother in Bloomfield, Ind., April 30, from valvular heart disease, aged 62.

James R. Meeks, M.D. Starling Medical College, Columbus, Ohio, 1863; for many years a practitioner of Dallas; died at the home of his son in Kirkwood, St, Louis, November 9, aged 76.

David K. Bechtel, M.D. Howard University, Washington, D. C., 1879; of Kulpsville, Pa.; a patient in a private hospital in Philadelphia, was burned to death November 12, aged 63.

George W. Root, M.D. Cleveland Homeopathic Medical College, 1902; of Alliance, Ohio; was accidentally shot and killed while hunting near Birkendale, Ont., November 7, aged 27.

Rolla W. Bula, M.D. Philadelphia University of Medicine and Surgery, 1870; died at his home in Indianapolis, November 10, a year after a surgical operation, aged 60.

Alfred F. Griggs, M.D. Atlanta (Ga.) Medical College, 1895; formerly of Birmingham, Ala.; died at his home in Reno, Nev., November 9, from tuberculosis, aged 34.

Lewis Lamar, M.D. Starling Medical College, Columbus, Ohio, 1867; died at his home in Benevola, near Hagerstown, Md., November 12, from paralysis, aged 70.

George P. Boone, M.D. University of Louisville (Ky.), 1898; formerly of Beard, Ky.; died at his home in Colorado Springs, November 10, from tuberculosis, aged 32.

Anson Sprague, M.D. Botanico-Medical College of Ohio, Cincinnati, 1876; of Newville, Cal.; died in the Glenn County Hospital, Willows, Cal., recently, aged 78.

Joseph Weeks, M.D. Physio-Medical Institute, Cincinnati, 1861; died at his home in Mechanicsburg, Ind.; November 16, from heart disease, aged 88.

George Joel Henry, M.D. Hahnemann Medical College, Philadelphia, 1908; died suddenly at his home in Hanover, Pa., November 7, aged 26.

Edward Dodd, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1903; of Winnetoon, Neb.; died in Dansville, N. Y., April 27, aged 29.

Josiah E. Hawkins, M.D. Cincinnati College of Medicine and Surgery, 1872; died at his home in Bayou Chicot, La., October 22, aged 71.

Elliott L. Blackmore, M.D. Washington University, St. Louis, 1871; died at his home in Aplington, Iowa, recently, aged 66.

George O. Brown, M.D. Pulte Medical College, Cincinnati, 1886; died at his home in Georgetown, Ky., April 13, aged 67.

Luther Kimbell (license, Conn., 1893), of Norwich, Conn.; *died in a hospital in that city*, November 11, aged 75.

John B. C. Wright, M.D. Atlanta (Ga.) Medical College, 1866; of Elko, S. C.; died recently, aged 70.

Dr. F. C. Moor, Tallahassee, Fla.: My experience has been that in the cases in which the coal-tar drugs did good if they were omitted the temperature was not excessive anyway, and when the temperature was very high, very large doses had to be given and the depressing effect was very decided. In 90 per cent. of cases I believe that it is possible to carry out some form of hydrotherapy, and the strict Brand method is valuable in children.

Dr. J. A. Witherspoon, Nashville, Tenn.: I think we fail to take into consideration that typhoid is largely a self-limited infection, and I believe that all coal-tar derivatives and opium (except possibly in hemorrhage) are absolutely contraindicated. The principles of treatment in typhoid should be to conserve the patient's vitality and to eliminate the toxins, and any treatment that depresses and lowers temperature temporarily markedly decreases the vital forces and in my judgment is contraindicated.

Dr. H. M. Folkes, Biloxi, Miss: Out of some 140 cases of typhoid fever I have had but one case of perforation, and in that case there was sudden extreme pain. I would like to know to what extent that symptom has been observed.

Dr. W. S. Thayer, Baltimore: I think a blood count is very important at the time of perforation. It is impossible, however, for every practitioner to make a blood count, but I would lay stress on the importance, under such circumstances, of examining fresh specimens of the blood. I agree with Dr. Dock and Dr. Witherspoon regarding antipyretics. It is more than forty years now since the cold baths were first employed, and that method has produced an enormous change in the statistics of typhoid fever.

Dr. Thayer: I have not seen any relative increase in the polymorphonuclears in perforation. The leucocyte count is simply a straw in making the diagnosis of perforation, and can not be relied on alone. There is a great difference of opinion as to the use of morphin. I never use it except in hemorrhage. Especially when there is diarrhea with the hemorrhage, I think the lead and opium pills the best.

Dr. C. W. Strickler: I had the opportunity of watching Dr. Boeckh's series of cases. I took the blood pressure in one of the cases, and there was no lowering of blood pressure after the use of the aspirin. If we are going to use any of these preparations aspirin is probably the safest.

Dr. E. V. Boeckh, in closing: I was evidently misunderstood, as it was never my intention to put any drug ahead of hydrotherapy in typhoid. My only claim was, that it seemed from the cases observed when baths were contraindicated and in which it was necessary to give an antipyretic drug, that aspirin was the least harmful of any that we possess.

Prophylaxis of Malaria.

Dr. W. S. Thayer, Baltimore: We know the life history of the malarial parasite, and if its cycle could be broken at any one point malaria would be eradicated in that particular community. There are three ways of accomplishing this, namely, mosquito reduction, protection of individuals from mosquitoes, and the destruction of the parasites in the human host. The *Anopheles* breeds especially in marches, in shallow collections of water occurring under natural conditions, in ruts, in places which have been dug up in the ground. The problem of the removal of the breeding places of *Anopheles* mosquitoes means the thorough and complete drainage everywhere about the affected region, and the clearing up of all standing water. The use of oil on water where mosquitoes breed is at best only a makeshift, and not nearly so efficient as clearing up and draining the breeding places. The second method of breaking the cycle is to protect the individual from the bite of an infected mosquito, and under this head is included the protection of the patients already infected from the bites of mosquitoes. But patients suffering from malaria can not often be confined to the house. However, in malarial districts every house should be screened, as well as the beds, porches, etc. The third way of breaking the cycle is by the destruction of the parasite in the host by the use of quinin. For prophylactic purposes, the Italians use small doses frequently repeated, instead of large doses given less frequently. Wherever possible they have carried out a mixed prophylaxis, personal protection, as well as quinin prophylaxis; and they have succeeded in reducing the number of cases of malaria enormously.

DISCUSSION.

Dr. J. H. White, New Orleans: From my own knowledge I can testify to the truth of Dr. Thayer's statement that the real solution of malarial prophylaxis is drainage. Oiling is simply a makeshift, and never can be anything else, because it has to be done at intervals, like the giving of quinin, and will be forgotten. I have found that, in addition to screening the houses, it is necessary at regular intervals to fumigate those houses, because through carelelessness mosquitoes will get in when the doors are opened. This fumigation is not a serious task and should be repeated every seven days.

Dr. Victor H. Heiser, U. S. Public Health and Marine-Hospital Service. In sections of the Philippines people died at certain seasons of the year by the thousands. In these sections quinin in large quantities was distributed gratuitously by the government, and now it is rare for a death to occur there from malaria.

Dr. S. T. Rucker, Memphis, Tenn.: One important thing has been omitted, and that is the administration of calomel preceding the quinin. I am convinced that the mosquito is the chief infecting agent in malaria, but I doubt if it is the only one. I have seen malaria with chills and fever in February. I would like to ask Dr. Thayer how long the malarial plasmodium can live in a healthy individual without any physical manifestations.

Dr. William Krauss, Memphis, Tenn.: One of the difficulties of screening is that the screens in general use, No. 12 mesh, will allow the mosquitoes to pass through readily. We should teach the public that these insects are the carriers of the infection. It is probably not necessary to get rid of all the mosquitoes, for Colonel Gorgas has shown with reference to yellow fever that the disease dies out before all the mosquitoes disappear.

Dr. T. A. Casey, Birmingham, Ala.: I want to emphasize the fact that the mosquito is the sole carrier of the disease. I still find that many physicians in the south believe as Dr. Rucker just said, that the mosquito is not the only source of infection. When we consider its cycle of development, in the body of the mosquito and then in the human subject, and if one link in the chain is broken the disease will be prevented, I think the question is at once answered.

Dr. H. L. Sutherland, Rosedale, Miss.: An important matter is to screen the malaria patient until you get him thoroughly under the influence of quinin.

Dr. I. I. Lemann, New Orleans: In New Orleans it has been found that the *Anopheles* mosquito breeds in the swamps back of the city and along the walls of the river front where small quantities of water may collect. In this way it was found that the city was practically surrounded by the breeding places of this form of mosquito. On the other hand, the *Culex* and the *Stegomyia* breed only in the center of the inhabitable portion of the city. These conditions correspond exactly with our clinical experience.

Dr. J. A. Witherspoon, Nashville, Tenn.: Until a national bureau of health is established, with sufficient mony and sufficient men of scientific attainments, of course these great problems of prophylaxis must be carried on in a rather unsatisfactory way, but when that is established I feel that most of these infections can and will be controlled. The great danger of infection is from the patients who are walking around and can not be screened. But the trouble is that we stop giving quinin too soon. If the quinin be continued long enough, then we will get rid of the latent infections, and in consequence will have less malaria.

Dr. D. L. Wilkinson, Montevallo, Ala.: What we want and need more than anything else is education of the public, and physicians will be compelled to carry that on until a bureau of health is established to carry out these measures for us. And in that effort it strikes me that one of the best measures is that adopted a year or so ago by the Shelby County Medical Society. Four good lecturers were secured and public lectures were given on the prevention of malaria, typhoid and tuberculosis and on some other question of preventive medicine In some parts of the country streams are being reforested and I would like to ask how, in these new areas we can prevent reinfection

DR GEORGE DOCK New Orleans Late return of malarial fever has long been known I have seen patients coming up from Central America in the fall become ill in February, March and even in April in places where there was no malaria It has also been shown that spring malaria often comes out a couple of weeks after those mosquitoes that have been fairly quiet during the winter begin to move around I have frequently seen that in Michigan I would go farther than Dr Witherspoon and keep these patients on quinin all winter and in this way prevent a return

DR W S THAYER It is not known how long the parasite can live in the human host sometimes probably for years There are no accurate observations for a longer time than two years The question of reforesting streams will have to be determined very much with regard to the particular locality I would question whether it would tend to increase the malaria to any great extent I am not sure just how far a mosquito can be carried by the wind but probably not more than two or three hundred yards The length of treatment is an extremely important matter, and I can only second what Dr Dock has said Ross advises three months' treatment in every case of malaria It has been my habit to treat a patient fairly vigorously for two or three weeks, and then ask him to take two grains of quinin three times a day for from three to six weeks but I am inclined to think that he ought to take a large dose say six grains a day in divided doses for about three months after infection I do not think very large doses are necessary except in the malignant cases It has been shown that the accumulation of quinin is just as much after small doses as after very large ones It is important to remember that the quickest way of getting quinin into the blood is intravenously, next by the mouth and that the slowest way is hypodermically

(*To be continued*)

NEW YORK NEUROLOGICAL SOCIETY.

Regular Meeting, held Oct 6, 1908

The president, DR B SACHS, in the Chair

The Seat of Consciousness

DR FREDRICK PETERSON Psychologists, metaphysicians, physiologists and physicians have written a great deal concerning consciousness, but if they have said anything of any great significance it has eluded my observation The most tangible thing that I have been able to grasp in my reading is that consciousness is a stream, a flow a flight, a current, a thread an 'orderly succession of changes' I take it for granted that whatever consciousness may be it has a seat It has been assumed that if the body be removed portion by portion first the legs and the arms and then the trunk as far as the base of the skull that consciousness if the circulation and oxygenation be kept up, still persists in the head and that its seat is in the brain Such an experiment in effect, has often been performed for us in broken necks and other spinal cord lesions Those who have dared to surmise further have intimated that consciousness is diffused throughout the brain, or even that it is an attribute of the cortex of the brain alone In my opinion the seat of that power which produces the manifestations of consciousness is in the basal ganglia (probably the corpora striata) and consciousness is a peculiar summation of energy at that point capable of being directed like the rays of a searchlight into this or that portion of the brain The daily physiologic variation of consciousness in the condition of sleep is certainly a reduction in consciousness from the highest summation of energies to some lower level Sleeping and waking may be observed in a vast group of animals that have little or no cerebral development Furthermore the phenomena of sleep are observed in new born human infants despite the fact that the cerebrum is empty of experience and anatomically still much undeveloped as to its connections with the rest of the brain They are also observed in children born without a cerebrum and even in dogs deprived of the hemispheres In innumerable cases of extensive loss of cerebral substance, of a hemisphere, as in infantile cerebral palsies (a frontal lobe in the crow bar case, etc), consciousness itself seemed unimpaired throughout life These observations seemed to show that consciousness, at least as regards its variations in the condition of sleep does not reside in the cerebrum An other argument of a similar bearing is the fact that every individual with a brain stored full of all the experience of a lifetime is only actually awake at any one time around some particular small group of functions or ideas that occupy consciousness

Passing now to another series of pathologic conditions, the one disorder which has led me to think much of this subject is epilepsy in which disease loss of consciousness is the most extraordinary and often the only symptom for example *tic de salaam* and other forms of *petit mal*, in which the patient drops suddenly to the floor with loss of consciousness, and quite as suddenly rises again in full possession of his faculties The loss of consciousness is complete and often lasts but a fraction of a second How can we account for such a phenomenon? If consciousness were a diffused attribute of the whole brain what spasm of blood vessels or other physical process familiar to us could act and be readjusted with such speed? What portion of the brain is so constructed as to be, apparently in intimate connection with every other? The corpora striata There is no part of the brain of which we know so little As Edinger said, here we have 'a mighty portion of the brain that must be of enormous significance, otherwise it would not be always present, from the fish up to the man"

DISCUSSION

MR HENRY RUTGERS MARSHALL A few years ago it would have been a matter of surprise to find such a subject presented for discussion before a body of neurologists, as it would have been considered to belong more particularly to the field of psychology The thesis is open to discussion in that it attempts to describe consciousness in terms of energy We have become more or less accustomed to similar descriptions since the appearance of Ostwald s work in which he attempted to define consciousness in terms of energy, and since then psychologists and philosophers have been endeavoring to bring meaning into his statements, but without success The word consciousness as commonly employed has two diverse meanings For instance, when we refer to the consciousness of plants, of which Darwin has spoken we refer to psychic existence, as such When, on the other hand, we state that we had gone to the theater and met an old friend who so engrossed our attention that we were not conscious of the play, we used the word consciousness with an entirely different meaning We here referred to a state of "awareness" and that was entirely differenent from "psychic existence" as such When we speak of the seat of consciousness we may mean either the seat of psychic sense in man or the seat of awareness This latter is probably the form of consciousness to which Dr Peterson referred When we inquire as to the seat of consciousness as psychic existence, as such, we deal with a different question The evidence at our command at present favors a broad and exceedingly general seat of consciousness as thus considered In sudden loss of consciousness in an epileptic there is also a momentary paralysis—a sudden cessation of activities That distinction is important because it brings into relation with our states of clear consciousness all those states of what are commonly called our 'sub conscious' mental life those states which might better be called 'sub attentive consciousness'

Waking and sleeping, I believe, are objective signs or the same conditions which from another point of view were described respectively as clear consciousness and the lack of clear consciousness

PROF FREDERIC S LEE Does consciousness represent a special form of energy or not? I think that most physiologists would hardly agree that consciousness represents energy It seems to me that the best working hypothesis for the physiologist is that consciousness is something of unknown nature which accompanies the activity of certain brain structures I do not like the term "epiphenomenon" to express that idea, but since that is the common and accepted term I would use it. Consciousness, then, is an epiphenomenon accompanying the activity of certain brain structures; or, rather, it is one of the modes of manifestation of their activity, just as chemical, thermal and electrical phenomena were other modes. Consciousness could not put into activity the brain structures. I would not necessarily confine consciousness to the activity of the cerebral cortex only, although I am inclined to believe that it is particularly associated with the working of cortical cells. Bechterew claims that in early life certain parts of the brain below the cortex act consciously, and that as the tracts between these and the cortex become myelinized and functional, conscious activity comes to be pre-eminently associated with cortical activity. On the theory that the *corpus striatum* works through the mediation of the cortex, how would Dr. Peterson interpret the behavior of one of Goltz's dogs, from which the cortex had been entirely removed?

Dr. Adolf Meyer: Dr. Peterson's thesis brings back to us the proposition which Dr. P. Carus advanced about thirteen years ago in the *Journal of Comparative Neurology*, based largely on the argument that the corpora striata formed a large, bulky part of the brain to which no other function could be assigned. Gaule in turn assigned the function to the optic thalamus. Ignoring entirely the question of what we meant by "consciousness" as a positive function, it seems that the evidence that Dr. Peterson has presented could best be summed up as evidence of vulnerability of mechanisms of consciousness by a lesion in the basal region. It is evidence in favor of the possibility of localizing the lesions in some types of unconsciousness. As soon as we try to make positive inferences, *i. e.*, as to the "seat of consciousness," we are bound to meet a number of difficulties, and one of them is this: contrary to Dr. Peterson's assumption, the corpora striata has relatively very obscure connection with the rest of the brain. This is one of the greatest stumbling blocks to the theory advanced that the corpora striata should be of such fundamental importance. So far as we know, its connections with the cortex are extremely scanty, and with the rest of the base its connections are essentially those with the hypothalamus. On anatomic grounds alone it would be difficult to explain any connection with the corpora striata and the "seat of consciousness," leaving out of consideration the question whether or not the "seat of consciousness" could be a safe problem to-day.

Dr. Smith Ely Jelliffe: In very general terms, consciousness might be regarded as the in-streaming of all the sensory functions, and with the cutting off of the sensory or perceptive functions, a loss of consciousness follows. To illustrate that point we need not consider the effect of an anesthetic, because in alcohol we have an agent, *par excellence*, which cuts off, one by one, the different sensory perceptive functions, little by little, until we have a non-conscious residua. So far as the seat of consciousness is concerned, the corpora striata simply acts in the capacity of a cut off by reason of the anatomic distribution of the fibers in that region. Instead of being the seat of consciousness, I look on it as a gateway through which the fibers pass, and any injury in that area would be apt, therefore, to have a widespread effect.

THE SERUM DIAGNOSIS OF SYPHILIS IN ITS RELATION TO NERVOUS DISEASE

The Development and Character of the Wassermann Test.

Dr. C. F. Bolduan: The Wassermann reaction, briefly outlined, is as follows:

Two tubes are prepared with the following contents.

Tube 1.—Extract of the liver and spleen of a syphilitic fetus, representing the syphilitic organism (or antigen), plus serum to be tested.

Tube 2.—Red blood cells of sheep or other animal, suspended in normal saline solution, plus serum of a rabbit which has been immunized to the particular red blood cells used.

Complement (a substance necessary to all immune reactions, which existed in the fresh serum of all animals) in the shape of fresh normal guinea-pig serum, is added to Tube 1 and allowed to stand. At the end of half an hour the content of Tube 1 is added to that of Tube 2. If the serum in Tube 1 came from a syphilitic individual, its relation to the extract of antigen is a specific one, and complement will be absorbed thereby; so that, when the contents of Tubes 1 and 2 are joined, no hemolysis of the red blood cells in Tube 2 will take place. If the serum is not from a syphilitic, complement will not be absorbed, but will remain active to cause hemolysis in Tube 2. Hemolysis is observed in the test tube as a tingeing of the whole field with a transparent red color. The red corpuscles have been disintegrated and the hemoglobin liberated. In the absence of hemolysis the solution of red cells remains turbulent and opaque. The test, of course, involves numerous controls and a careful standardizing of the hemolytic serum and of the syphilitic extract.

Technic of the Wassermann Reaction: Its Practical Application with Reference to Diagnosis, Prognosis and Treatment of Nervous Disease.

Dr. E. Castelli:

1. From the social standpoint, the serum diagnosis of syphilis represents one of the greatest achievements attained by medicine at the present time. The rôle played by syphilis in the life of mankind requires no explanation. The highest coefficiency to degeneracy and insanity is created by syphilis.

2. If we were now in a position to tell our patient that notwithstanding his previous syphilitic infection he could marry and create a healthful progeny we would certainly have at our command a tremendous factor for benefiting a large proportion of our fellow beings.

3. If we could establish the fact that syphilis is curable, and did not hang like the sword of Damocles over a man's physical and mental future, again medicine would triumph.

4. From a legal standpoint, the fact that we might be able to aid either the prosecution or the defense with the knowledge that the criminal had a claim on the court's leniency by reason of a previous syphilitic infection, which had produced a derangement of his mental poise, might become an important factor in the administration of justice.

5. The serodiagnosis of syphilis would be a means of differential diagnosis during the pre-paralytic stage, when the general symptoms were indefinite and generally masked by a well defined neurasthenic syndrome. The differential diagnosis between general paralysis and neurasthenia during this period would represent the real prophylactic warning. The patient, during this pre-paralytic stage, is dangerous to himself, his family and to society at large, and our early recognition of the condition makes possible the safeguarding of the patient.

6. While the serodiagnosis of syphilis in its present condition is not perfect, and owing to its complicated technic and to the difficulty of procuring the necessary ingredients it is limited to a few privileged students, yet it has the indisputable advantage of furnishing us with a rich amount of positive diagnostic data, and I consider its adoption in the various hospitals and medical institutions not optional, but absolutely necessary.

Demonstration of Wassermann Reaction Test.

Dr. Noguchi, Rockefeller Institute: After demonstrating the Wassermann reaction, Dr. Noguchi showed briefly a reaction evolved by him during some experimentation with the various albumin reactions in the spinal fluids of general paralysis and other disorders. This was obtained as follows: 1 c.c. of the spinal fluid to be tested is placed in a test-tube whose diameter is 1 cm. or less. To this is added 5 c.c. of a 10 per cent. solution of butyric acid. The tube is then heated until the fluid is bubbling, and while still hot 1 c.c. of a normal (4 per cent.) solution of sodium hydrate is added. In nearly all spinal fluids and opalescence or cloud occurs, but in the spinal fluid of general paralysis the cloud soon separates into a definite flocculence which is characteristic. The flocculence usually appears in a few moments—rarely requiring more than twenty minutes. The reaction has the advantage of being positive in a quantity of 1 c.c. or less, and of being a qualitative as well as a quantitative test. What the flocculence may mean is not known, but it may consist of some globulin fraction which is found only in syphilitic or meta-syphilitic disorders of the nervous system. That the reaction is not entirely quantitative is shown by the fact that many fluids from nonparalytic patients give much richer clouds than those from paresis patients but the clouds do not flocculate

Discussion on Serum Diagnosis of Syphilis at Ward's Island

Dr J W Moore State Pathological Institute Ward's Island So far 80 cases have been tested at Ward's Island by the Noguchi method 50 undoubted cases of paresis gave 48 positive results The 2 negative cases did not seem peculiar in any way Of 3 cases of cerebral syphilis 2 gave positive reactions Of the nonparalytic cases tested 5 were alcoholic psychoses 2 manic depressive cases 1 paranoic state, 1 imbecile and 1 case which was diagnosed as Korsakow's delirium but which proved at autopsy to be due to a fractured skull with extensive diffuse dural hematoma Only 1 of the non paralytic cases gave a positive reaction This was a case, diagnosed as dementia præcox, with however increased knee jerks and speech defect In 5 doubtful cases there were 2 positive results and 3 negative In the majority of cases of paresis the Wassermann reaction was also carried out Four cases of general paralysis which were negative to the Wassermann test were positive to the other Four gave the Wassermann reaction much less definitely than did the Noguchi reaction In no case was the Wassermann test the more conclusive of the two In two of the cerebral syphilis cases in which it was tried it gave a negative result

Dr B Onuf Dr Castelli states that in a large percentage of cases of general paresis—70 or 80—the Wassermann reaction was positive, and also in about 60 per cent of cases of senile dementia Can we conclude from that that senile dementia is simply a late form of general paresis? Does syphilis produce a rather rapid exhaustion of the nervous system while in senile dementia identical changes occurred in a longer course of time? Does Dr Castelli mean to identify senile dementia with general paresis?

Dr Boleslaw Lapowski On account of the technic of the Wassermann reaction and the material and control experiments that it involves it will always remain a laboratory test By terming it the "Wassermann reaction' we are inadvertently doing an injury to others who laid the basis of the reaction Wassermann simply substituted dissolved substances of bacterial extracts of organs instead of emulsions of bacteria, but the basis was the fact discovered by Bordet and Gengou, and to them at least some credit is due The test is of undoubted value in corroborating or establishing the diagnosis of latent syphilis but even then it can not always be relied on, and in dealing with primary or secondary syphilis it is not necessary

Dr B Sachs While the Wassermann test can not be made at the bedside, its technic is not difficult and can easily be acquired For the present, of course, this test, like many others, will be restricted to the laboratory and has to be made by persons specially qualified along those lines So far, the reaction has been practically limited to cases of suspected tabes or general paresis, but at the Mt Sinai Hospital an effort is being made to employ it in other doubtful spinal or cerebral cases in which syphilis is suspected

INTERNATIONAL CONGRESS ON TUBERCULOSIS.

Held at Washington D C, Sept 28 to Oct 3, 1908

(Concluded from page 1813)

SECTION II—CLINICAL STUDY AND THERAPY OF TUBERCULOSIS (Concluded)

Hygiene of the Mouth, Nares, Pharynx, Intestines, Skin, Mucous Membranes, Lymphbodies, Lungs; Prevention of Colds

Dr Noble P Barnes, Washington D C Hygiene of the mucous membrane is essential to the cure and prevention of disease Only by free drainage and free air space in the nasal cavity can we hope for relief and cure of ear disturbances recovery of diseased pulmonary and gastrointestinal mucosa or arrest and non recurrence of a tuberculous process In practicing lung gymnastics never expand the chest beyond the degree of comfort for fear of tearing open old wounds or rupturing air cells and expel the air through the nose instead of the mouth or puckered lips as practiced by most teachers of physical culture The turbinates are cooled by inhalation, warmed by exhalation and dust caught on the nasal hair and mucous membrane will be blown out instead of drawn further in The digestive tract as a route for tuberculous invasion is of first importance in infants and young children The pasteurized milk and other sterile foods are "love's labor lost" unless the many other methods of infection are recognized and eliminated Pacifiers are disease carrying articles that deform the mouth produce adenoids, and create the sucking habit that is still observed in gum chewing, nail nibbling adults The expressions "catching cold," "cold in the head, chest and back" mean nothing to the trained mind If the mucous membranes are free open, well drained and healthy, there will be no army of organisms waiting for a lowering of resistance by exposure to atmospheric changes or fatigue or hunger to operate in the production of a rhinitis bronchitis, tonsillitis or rheumatism To prevent 'colds," observe the proper hygiene of the skin and mucous membrane, avoid fatigue long hunger dust bad air, mufflers and chest protectors No exercise in the play park can overcome the injury from studying in foul air in school rooms or sleeping in closed apartments nor can fresh air and good food overcome disease caused by defect The new hygiene should be taught in the schools not that about the effects of tobacco and alcohol, but that the avenues to infection are through the skin and mucous membranes and that these structures must be kept clean and healthy

Isolation of Poor Consumptives in General Hospitals

Dr M Letulle Paris Patients with "open tuberculosis," admitted to hospitals for general diseases, must be isolated "Measures of collective preservation" must be carried out in such a manner as not to injure the poor consumptives who entrust their health to our keeping The treatment of tuberculous patients in a hospital must be not only "hygienic and dietetic" and as completely so as in a sanitarium, but also moral It is, therefore, absolutely necessary in curable cases to secure to the consumptive the joy of living and the hope of recovery Consumptives admitted to general hospitals must be divided into three distinct administrative classes, without daily communication, so as to secure complete isolation (1) Early cases (without expectoration), (2) open cases, considered curable, and suitable for sanitarium treatment, (3) "chronic consumptives," who merely require humane care and treatment This division into three classes must be made as early as possible With that end in view, every patient suspected of pulmonary tuberculosis must be isolated in a separate room immediately after his admission, until the medical diagnosis has been definitely made

Rest of the Lung in Pulmonary Tuberculosis

Dr Norman Bridge Los Angeles, Calif The tuberculous lung should be kept as still as possible especially if the disease is unilateral There are numerous arguments in favor of this view it is the nearly universal opinion in tuberculosis of other organs to keep the part as still as possible and I can discover no reason for making an exception of the tuberculous lung Immobilization relieves symptoms and helps toward recovery Violence to a wound retards healing and increases scar tissue Analogous things happen to the tuberculous lung Violent coughing and lung gymnastics may disseminate the disease in the lung Stretching the diseased tissue is liable to injure it The Bier method of passive congestion doubtless tends to retard numerous diseases and helps toward recovery It is more effective in a lung that is kept still Artificial immobilization in unilateral cases always seems to help the lung toward recovery so does pleural effusion of serum Cough to expel phlegm from the air passages is not important but much cough is harmful Pus in the windpipe or bronchial tubes is absorbed into the system very little and does little if any harm Hence to suppress cough by will power or even mild drugs is useful The right view of this subject must be reached by analogy and good sense for statistical records are hard to make The difficulty lies in the great number and va riety of the natural and spontaneous movements of the lungs, which vary widely in different patients. It would require at least 1,200 patients, under observation for a year each, by an accurate and judicially minded observer, before any sharp generalization could be made. No such test has been made or is likely to be. Analogy and a due sense of proportion requires that a tuberculous lung should be kept as still as possible.

Ten Years' Experience in Sanatorium Work.

Professor Gotthold Pannwitz, Berlin, discussed (1) his experience with regard to the construction and arrangement of sanatoriums; (2) his administrative experience; (3) the results of treatment; (4) the supplementary measures before and during sanatorium treatment; and, finally, (5) his special experience in children's sanatoriums:

An important lesson, which has been learned by experience, is that the rest-cure in a sanatorium must be followed by a period during which the convalescent engages in some light agricultural occupation (occupation-cure), so that he may again become accustomed to regular manual work and thus render the results of treatment more permanent. The medical treatment, besides the general hygienic and dietetic measures, should include the use of tuberculin, administered with strict regard to the individual and with the greatest caution, so as to avoid producing any reaction. The results of the tuberculin treatment are becoming more and more satisfactory. The most important adjuncts to the free sanatorium are the convalescent camps or homes, a general supervision of living conditions by social workers from the supporting dispensaries, the rendering of assistance to patients' families, and finding work for convalescents.

In children's sanatoriums special stress should be laid on the educational feature. These institutions should be arranged on the simplest hygienic plan, in order to avoid getting the children accustomed to comforts which, for want of means, can not be supplied in their own homes. Light and air, plenty of soap and water, but in the simplest imaginable form, are supplied, and the children are constantly taught the simplest rules of hygienic living—how to sleep, breathe, chew, harden the body, keep clean, and take exercise. A sanatorium for children must have some farming facilities, so that, after the rest-cure of several weeks, the child may continue to live in the open air for some time and engage in gardening or other outdoor occupation, and thus render the results of treatment more permanent.

Cost and Maintenance of Sanatoria, with Special Regard to Institutions Operated by Life Insurance Associations.

Dr. Richard Freund, Berlin: Tuberculosis sanatoria must be developed into special hospitals for tuberculous patients. They must be massively built and must be adapted for use during the whole year. The interior arrangement must be planned to allow the maintenance of perfect cleanliness. In building these sanatoria only the best materials are to be used and equipment should be installed with greatest care. Such a plan of construction will save expensive repairing and renovating and make certain the permanence of the institution. The most expensive is the cheapest. The rooms should be furnished in the simplest manner, every luxury is to be avoided, yet care should be taken that the sanatorium presents an air of comfort and is inviting. In order to secure the best quality of food with the lowest possible average cost per inmate, each sanatorium should have its own farm near by, which supplies the sanatorium, and on which also tuberculous patients might find occupation.

Graduated Labor in Pulmonary Tuberculosis.

Dr. M. S. Paterson, England: The idea that work is to be employed in every case and at all times is erroneous. The system of graduated labor at Frimley Sanatorium begins with almost more extreme rest than in any other sanatorium. In conjunction with Dr. Inman I have shown by the opsonic index that exercise has a definite effect on the blood in pulmonary tuberculosis. It also influences the temperature. Influence on blood and temperature I believe to be due to toxins produced at the site of lesion or autoinoculation (Wright), when the toxin reaches the blood and lymph stream. Persistence of this fever and the state of the blood leads to the death of patient; absolute rest is necessary to prevent this. Patients with temperature even of 99 F. by mouth and with headache are sent to bed; they are not allowed to wash themselves or to go to the lavatory. Every possible means is used to stop cough not productive of sputa. Graduated exercises are begun later and careful watch kept on temperature. The patients' work is gradually increased under constant supervision until such time as they can perform the heaviest work without rise of temperature. Chief indications of autoinoculation are: 1, Loss of appetite (usually meaning too hard work); 2, a patient is seen to do his work as if it were an effort; 3, an irregular swinging temperature always below normal; 4, a temperature of 99 F. in early cases in men; 5, a temperature of 99 F. and headache.

Treatment of Tuberculosis in the Patient's Home or in Other Places than Sanatoria.

Dr. Charles L. Minor, Asheville, N. C.: The hygienic and dietetic treatment is now universally recognized as a fundamental part of any and all rational treatment of pulmonary tuberculosis. This method has usually been most carefully applied in closed sanatoria, and it has been supposed that it could only be satisfactorily carried out in such institutions. But, granted sufficient care and pains, this sanatorium treatment, as it is often called, can be as well applied outside such places. The essential features of this method as to their adaptability outside of sanatoria are: 1, Careful personal medical oversight, strict discipline and close supervision; 2, thorough instruction; 3, systematic and hygienic arrangement of the patient's life; 4, effect of the example of other patients and of the *esprit de corps;* 5, nursing; 6, proper housing location and feeding; 7, suitable climatic conditions. All are obtainable unless the patient is handled alone in his own home, when the features mentioned under 4 are missing, or unless he is so poor that those under 7 can not be had. The handling of the very poor, ignorant and criminal is a sociological question, more than a medical one. Handling a chronic disease like pulmonary tuberculosis calls for different methods than those applicable to the ordinary acute disease. The former call for much more detailed work and closer personal relations, and unfortunately chronic cases are often by the profession regarded as uninteresting and tedious and unfruitful of results, a very erroneous view.

Treatment of Tuberculous Patients in Their Homes and Places Other Than Sanatoria.

Dr. Thomas D. Coleman, Augusta, Ga.: This is a question of the greatest importance to the individual, the family and society because the greater number of tuberculous patients must be treated in their homes, because of personal choice, individual necessity and the scarcity of suitable sanatoria, in comparison with the number of tuberculous sufferers. It is not to be confounded with the climatic treatment or an entire change of climate in the affected, whether the treatment be carried out in a sanatorium or suitable private home or boarding place. As rigid discipline and as intelligent medical oversight may be carried out in the home as in the sanatorium. The location of the home must be considered, with reference to altitude, soil, sunshine and shade, shelter from winds, location and general equipment of the room with reference to the home and surroundings, hygienic and dietetic routine, specific treatment, and the treatment of the symptoms.

Diagnostic Value of the Cytologic Examination of Tuberculous Effusions in the Various Serous Cavities.

Dr. A. Cade; Lyons, France: The cytology of effusions (Widal) requires a simple and easy method of examination and is of considerable aid in determining the nature of a pleurisy. A great predominance of lymphocytes is a strong argument in favor of tuberculosis. There is no danger of making a mistaken diagnosis of tuberculosis on the strength of the cytologic findings in a pleural effusion; the only risk is that the condition may be mistaken for something else, as abnormal formulas are by no means exceptional. The anomalies of the cytologic formula are susceptible of various explanations, but some of these anomalies are still mysterious. The cytology of tuberculous effusions in other serous cavities has a questionable semeiologic value. We must except the great predominance of lymphocytes in tuberculous ascites, an occurrence which, however, is by no means common. In general, cytologic findings must be interpreted with caution; they often need to be controled by other laboratory examinations and should always be compared with the data obtained by clinical observation. The foregoing conclusions are the result of numerous observations made during the past seven years in the laboratory of my clinic, most of them with the collaboration of Dr. Barjon.

Tuberculous Rheumatism and Inflammatory Tuberculosis

Professor Antonin Poncet, Lyons, France: My researches during the past ten years have established the existence of articular and non-articular tuberculous rheumatism. This last comer among the infectious rheumatisms should be placed in the front rank, as it is the most common, and its frequency is explained by the prevalence of tuberculosis. The various forms of tuberculous rheumatism range from the acute forms (acute and subacute articular rheumatism) through all the intermediary grades to the chronic forms (nodular deforming ankylosing articular rheumatism). As a rule the articular lesions do not exhibit the characteristics of classic tuberculosis, such as tubercles, caseous infiltration, etc. (macroscopic features), or tuberculous follicles, giant cells, etc. (microscopic features) that constitute the characteristic picture to which the term specific tuberculosis may properly be applied. The lesions, on the contrary, are made up solely of inflammatory tissue; hence, the name "inflammatory tuberculosis," which I have given to this variety of tuberculosis. There are accordingly two great varieties of tuberculosis: specific tuberculosis, which has been admirably studied and is well known, and inflammatory tuberculosis, with an insignificant anatomic reaction, purely inflammatory, as in all infections and intoxications. It is this latter form of tuberculosis that I have studied more particularly during the past five years with Dr. René Leriche. It embraces the attenuated forms of tuberculosis which until that time had not been properly recognized. Its range is no less extensive than that of virulent specific tuberculosis. It attacks all the tissues, all the systems, all the organs, as well as the joints, where its existence was first revealed to us under the form of tuberculous rheumatism. Often it takes the place of the arthritic, fibrous or neuro-arthritic diathesis, etc., terms which are becoming more and more vague and less acceptable because they merely refer to syndromes brought about by the tuberculous virus under a great variety of circumstances.

Tuberculosis in Hospitals for the Insane

Dr. Richard H. Hutchings, Ogdensburg, N. Y.: Reports from New York state show that the death rate of the insane in custody is 16.6 per cent., as compared with 10 per cent. among the general population from tuberculosis. In Massachusetts more than 14 per cent. of the deaths among the insane are attributed to this disease; the Government Hospital for the Insane reports more than 20 per cent. of tuberculous lesions found postmortem; in the St. Lawrence State Hospital active tuberculous lesions have been found postmortem in 14 per cent. of the cases. The frequency of the disease among asylum inmates differs in different parts of the country, being more frequent, in general terms, in the east and least frequent in the newer states of the west; it depends to some extent on (1) the environment of the patient admitted, from crowded cities or rural districts; (2) the conditions existing in the hospital itself, as overcrowding, poor ventilation, and the general standard of care maintained. The frequency of tuberculosis among the different classes of the insane—most frequent among the idle and inactive and those with indoor employment, and least frequent among the patients regularly employed at work in the open air—is supported by an examination of the death rate from this disease in the two sexes. In our asylums the women as a rule are employed at domestic and indoor work, while all the garden, farm and outdoor work is performed by men. In New York state during the past eighteen years there have been among the insane in custody 28,106 deaths from all causes; of these 15,242 were men and 12,864 were women. Among the men 1,463, or 9.5 per cent., died of tuberculosis, while among the women there were 2,596, or more than 20 per cent., died from this disease. The number of insane in whom an actual diagnosis of tuberculosis has been made ranges in various American asylums from 0 to 14 per cent., the average being about 3 per cent. These figures are probably below the truth because of the difficulty in making physical examinations. Where measures are employed to isolate the tuberculous patients there has resulted a diminution in the frequency of the disease. Measures for the prevention of tuberculosis include, besides the ordinary measures for cleanliness, a more critical examination of new patients, employing tuberculin when necessary, with isolation of all infected persons, reduction of overcrowding in wards and dormitories, free ventilation from open doors and windows, daily exercise and employment out of doors for both men and women, and sterilizing of all garments and bedding before such are used by a second person.

Rôle of Pleural Adhesions in Sudden Death, Asphyxia, Severe Injuries

Drs. Lacassagne and E. Martin, Lyons, France: Pleural adhesions occur in 80 per cent. of cases. They are most frequently of tuberculous origin. Every individual with pleural adhesions is liable to sudden death. Every patient with adhesions falling in water is a doomed man (Lacassagne). Adhesions may aid rapid death in anesthesia or after severe surgical injuries. Their importance is therefore great in general medicine and in legal medicine. They are the more injurious as they are more extensive.

Value of Roentgen Ray Examination in Early Diagnosis of Pulmonary Tuberculosis

Dr. Paul Krause, Jena: Infiltration at the apices sufficiently extensive to be demonstrated by percussion produces a more or less deep shadow. The *x*-ray examination is superior to physical diagnosis, inasmuch as it shows that in many cases the process is more extensive than was at first supposed. Infiltrations that can not be demonstrated by percussion can often be demonstrated by means of an *x*-ray photograph. Simple catarrhal processes in the early stage can not be demonstrated either by the fluoroscope or by taking an *x*-ray photograph. Later, the apices, owing to the diminished amount of air, appear dark and do not clear up during inspiration. If the case is very important for practical reasons, an *x*-ray photograph should always be made. The level of the apices, which in doubtful cases may be determined by orthodiagraphic measures, is of no importance unless the difference exceeds from 1 to 1.5 cm. The width of the apices has not been sufficiently studied with the *x*-ray to be considered a diagnostic point of any value. Ossification of the first rib is readily demonstrated by means of the *x*-ray, and, after Freund, may be utilized as a sign of early tuberculosis. The normal clearing up of the apices during respiration is often absent on one or both sides in early tuberculosis. Lagging of the diaphragm on the diseased side (Williams' phenomenon) has no diagnostic value. The position of the shadow of the ribs in the *x*-ray picture can only be utilized with great caution, if at all. Changes in the apices are usually not found, but alterations of the shadow at the hilus, indicating the presence of indurated caseous or calcified bronchial glands, or infiltrative processes in the neighborhood of the hilus of the bronchi, is, on the other hand, most important. I have frequently seen the picture of a central pneumonia due to a mixed infection with pneumococci progressing slowly in spite of the disappearance of the fever, and after weeks being recognized as a tuberculous process by percussion and auscultation and bacteriologic examination. The *x*-ray examination should be regarded as coordinate to physical examination, but it has its limitations. It tells us nothing in regard to the etiology of the process. The *x*-ray examination frequently reveals the infiltrative process with a perfection which closely approximates that of the autopsy table. Cavities of every size from that of a pea upward, whether superficial or deep-seated, as well as calcified foci, reveal themselves in the *x*-ray photograph. Sources of error arise from the fact that shadows at different depths in the lungs overlie one another. In many cases infiltrative processes of a non-tuberculous origin (tumors of the lung, bronchiectasis, pulmonary abscess, pulmonary gangrene) can be differentiated. In the main, however, the *x*-ray diagnosis *merely confirms or completes the clinical findings*, and is limited to the detection of differences in density in the lung.

Recognition of Pure Pneumothorax, without Exudate, in Pulmonary Tuberculosis.

Dr. Hermon von Schrotter, Vienna, with the aid of tables and radiograms, discussed *pneumothorax occurring without exudate in the initial stages of tuberculosis*:

In individuals who were formerly apparently well and without any special accident, air enters the pleural cavity. In spite of marked displacement of the mediastinum, the symptoms may be relatively trivial. Similarly, the objective symptoms may be so indistinct or so uncharacteristic that it would be impossible to make a certain diagnosis without the aid of *a radioscope or the spirometer. The etiologic* connection of the pneumothorax with tuberculosis *can only be determined* by other investigations or by a careful and prolonged study of the later course of the case. The fact that pleural adhesions are absent and that the air enters into a normal pleural cavity affords the opportunity to study the phenomena of mediastinal displacement, the mechanism of respiration, and the vicarious *labor of the unaffected lung, in what might be called* its "pure orm." *It is also possible to follow out by observation or* suring interesting phenomena which as yet have not been ·iently appreciated. Thus, on the lung whose maximal action is toward the hilum, the phenomena of pulsation an be demonstrated. One can also study the change in the size of the lung during respiration, the lung capacity and the respiratory gaseous interchange as well as if the one lung had been artificially removed. By means of the radioscope, controlled by the *simultaneous employment* of the spirometer, *one can* study the course and rapidity of the spontaneous disappearance of the pneumothorax, or, what amounts to the same, the re-expansion of the lung. A deficiency in the vital capacity of a patient amounting to from 1,000 to 1,500 c.c., particularly in an individual already studied, of itself permits a diagnosis of (recent) entrance of air into the pleural cavity, even though the remaining physical signs are doubtful. It is of further interest that the above-described condition may recur two or three times in individuals with small, circumscribed apical affections, while only slight variations occur in the manifestations and absorption of the pneumothorax. I have seen four such cases and have been able to study two of them along the lines just laid down. One of these patients still lives and comes at regular intervals for examination. He now shows (one year after the last recurrence of his pneumothorax) definite symptoms of an affection of the left upper lobe which had formerly been completed free. The other patient died after two attacks of pneumothorax. The course of the disease extended over several years and toward the end was rapid, although aft[illegible] the healing of his first attack of pneumothorax definite s[illegible] *of specific disease of the lung* could not be [illegible] Another man of 23 years may be

sion was *distinctly increased*. Several times the per-minute volume was *found to average* 10.5 L., with the respiratory rate at 22 a minute.

Specific Aids in the Diagnosis and Prognosis of Tuberculosis.

Dr. Silvio von Ruck, Asheville, N. C.: Of 300 patients at the Winyah Sanitarium whose sputa were negative, subcutaneous diagnostic injections of tuberculin gave positive results in 75 per cent. Of 26 healthy persons none reacted to instillations of 1, 2 and 4 per cent. solutions of alcoholic precipitate of old tuberculin into the same eye. In 23 cured or arrested cases none of the patients reacted. Of 18 tuberculous patients treated with specific remedies six months or longer 31.8 per cent. reacted. Of 34 under specific treatment less than six months 47.06 per cent. reacted. Of 44 not yet treated specifically 65.9 per cent. reacted. The influence of specific medication on the power to react to tuberculin is manifest. Of 67 tuberculous patients tested by v. Pirquet's method with 50 per cent. solution of human tuberculin 44 were positive, 19 negative, 4 doubtful. Of 16 cured patients 12 were positive, 3 negative, 1 doubtful. All these patients had not reacted conjunctivally. Of 24 clinically non-tuberculous 12 were positive, 1 gave a late reaction, 11 were negative. The use *of bovine tuberculin, both in the conjunctival and cutaneous* tests, side by side with the human, has not yielded results from which any definite conclusions can as yet be drawn. The tuberculin reactions as well as the serum reactions are specific and of definite value in cases in which the diagnosis of tuberculosis is not decisive by other methods. A continuous *increase in the agglutinating power* is favorable prognostically, *but I have not found any prognostic conclusions* possible from the tuberculin reactions.

Coagulability of the Blood in Pulmonary Tuberculosis: A Preliminary Investigation.

Dr. Myer Solis-Cohen, Philadelphia: A study of the coagulability of the *blood in tuberculosis* has been strangely neglected, Vierordt in 1878 and I myself in 1907 being the only ones to have reported such investigations. Yet the importance of this subject should be evident in view of the frequent occurrence of hemorrhage in this disease and the almost universal use of calcium chlorid for such a complication. Wright's *assertion that hemorrhage in typhoid is associated* with defective coagulability lends an added interest. One hundred cases of pulmonary tuberculosis were examined, 540 observations being made. The blood was tested according to the method which I have advised. Drops of blood were deposited on the inverted lid of a German stender dish and covered by the dish, which was held *in place by a rubber band*, the inverted dish being then placed in a pan of water kept at a temperature of 37 C. (98 F.). At intervals the dish was removed *and tilted*, the drops *sagging and* becoming tear or pear-shaped on profile view and denser below and clearer above on full view before *clotting* occurred. When coagulation was complete the drops did *not move* when seen from the side *and when looked* at in front were denser in the center or showed an even density. The average clotting time of all the cases was 5 1/6 minutes, being practically the same in the different stages of the disease. The examinations showed that persons with increased coagulability *are probably* less liable and those with deficient coagulability probably more liable to

SECTION V—TUBERCULOSIS IN CHILDREN—ETIOLOGY PREVENTION AND CURE

Comprehensive Program for Prevention of Tuberculosis: Relative Functions of Available Agencies

DR LIVINGSTON FARRAND New York The prevention of disease is to be attained (a) by eliminating centers of infection and (b) by raising the resisting powers of individuals Elimination of centers of infection depends on adequate facilities for early diagnosis for treatment of curable patients, for the proper care of advanced patients and on such restrictive sanitary regulations as may be found necessary Increasing the resisting powers of the population depends naturally on a higher standard of living with a wider observance of a sound hygiene, which in turn can only be brought about by an extensive campaign of education The available agencies for attaining these ends may be classified as (1) official, and (2) private The official agencies are the fundamental ones In the United States these are national state and local The possible rôle of the national government in the campaign is somewhat vague and difficult to define The value of a national department or bureau of health in the tuberculosis field would probably be chiefly educational and coordinating The state government is similarly of minor importance, although prominent historically The state sanatorium is relatively unimportant, and all state foundations have certain disadvantages The state health authorities, on the other hand have a definite function in the educational campaign, and state legislation is required for certain purposes Local official authority is the chief factor to be considered Our present aim should be to arouse a sense of responsibility there Private agencies are chiefly (a) organizations for the prevention of the disease, and (b) institutions for its treatment Private agencies are necessary in arousing public sentiment and official responsibility Their objects should be to carry on a campaign of popular education until public authorities assume the task when they should turn their energies into other fields It may be necessary to establish dispensaries, sanatoria, and hospitals under private foundations, but only as expedients and not as final means Dispensaries and hospitals are of superior importance as contrasted with sanatoria Hospitals for patients in advanced stages are the great present need in the United States Educational association and effort is of prime importance at the present time

Influence of Overwork and Nervous Strain in Tuberculosis.

DR GEORGE DOCK Ann Arbor, Mich, discussed the general nature of tuberculosis its effects on the body and the possible modifying influences of overwork and nervous strain on those processes

To keep the tuberculous patient at the highest point of efficiency, and with the least danger to others causing further illness and expense in an ever widening circle he must be cared for when sick or when overwork is inevitable This requires a great increase of hospital facilities for the tuberculous As part of the prevention of overwork and nervous strain it is just as essential that the family of the patient is so well cared for that he will take advantage of facilities for treatment and remain under treatment until his efficiency is raised to the highest possible point Also when well enough to work, he must be supplied with proper facilities for the nearest approach to a living wage

Cost of a City's Ransom.

HON TALCOTT WILLIAMS Philadelphia gave an estimate of the expenditure which would be required to control tuberculosis in Philadelphia

The ultimate extirpation and disappearance of tuberculosis exactly as leprosy has disappeared in the past is the final goal to which this congress tends Encouragement exists in the decrease of the relative death rate from consumption but while in Philadelphia, the deaths from this cause per 1 000 living have in 20 years fallen off relatively one half the absolute aggregate of those dying has remained at about 3 000 for 20 years up to 1906 The reduction in death rate in 1907 may or may not prove permanent Statistics of these 20 years show that while in the general community tuberculosis is on the decrease, the growth of poverty, want and wasting diseases tend to maintain the ratio of deaths from general causes While the means of infection remain, the frequency of deaths from this disease will continue to occur particularly among the less favored classes of society The infection itself must be removed A city should be held responsible as much for suppressing preventable disease as for keeping its roads in repair Its citizens owe as great a duty to the preservation of health as of order Philadelphia to day has about 3,000 deaths a year from tuberculosis, although the rate was lower in 1907 In the opinion of the local bureau of health, judging from current reports of cases, of the 10 000 consumptive persons in Philadelphia 3 000 may be expected to succumb within twelve months, and another 1,000 four months later, making at the present moment 4,000 tuberculous patients in that city alone needing expert care The ransom of a city, therefore, calls for hospital or sanitarium provision for 4,000 in the last stages of the disease, and watchful care over 6,000 more to insure their proper nourishment and to prevent infection of others The hospitals of Philadelphia have 1,500 bed capacity unused Hospital provision for 2,500 more would cost in these days of concrete building materials not over $1 250,000 The maintenance of 4,000 consumptives destined to succumb within two years, and a peril to all about them, would cost at the average hospital rate of a dollar a day, $1,460,000 annually The care food and supervision of the remaining 6,000 not yet helpless would cost $600 000 a year This sum would insure to them medical attendance, services of visiting nurse and proper food Therefore by the yearly expenditure of $2 000,000, in addition to the initial sum of $1 250 000 for hospital construction, Philadelphia could extirpate tuberculosis, and with a law imposing cumulative penalties for failures to report cases, in a period of say ten years could limit the city's death rate to that of general causes This is a small sum to pay for the ransom of a great city—for the saving of 3,000 lives a year and for the removal of a daily peril which menaces entire families and communities The annual cost of maintaining the proposed undertaking would be but two thirds that of the police, one third that of the schools, and but double the increase made to the city's salary list in 1907

Transmission of Tuberculosis.

DR W A EVANS, Chicago Tuberculosis is a disease of major sanitary importance It is transmitted through air and milk—the one universally used, the other very largely used The infected people and cows are difficult to handle, by reason of the chronicity of the disease including its slow disabling Air borne tuberculosis is spread in halls, cars, working places and other assembling places as well as homes Homes spread consumption by (a) being infected, (b) lowering vitality (1) determining infection, and (2) determining results of infection

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Medicolegal

Railway Surgeons Who Are Not Permitted to Have Passes

The Supreme Court of Nebraska says in the case of State vs Martyn, that the defendant a physician made a contract with a railway company to furnish all necessary surgical and medical treatment to the sick and injured employes of the railway company free of charge to said employes and also render such services to passengers and others for whom the company should request the same between certain stations in Nebraska for which he was to receive an annual pass on the Nebraska division of said railroad, together with trip passes on other divisions thereof and $25 per month during his employment The defendant was prosecuted for accepting pass in violation of law and it is held that the district court erred in directing the jury to find the defendant not guilty and discharging him from further prosecution The Supreme Court holds that a contract between a railway company and a physician by the terms of which he is to receive for professional services to be rendered by him for the comp [illegible]

American Journal of Medical Sciences, Philadelphia.

October.

30 *Clinical Study of Some Arrhythmias of the Heart. W. B. James, New York.
31 *Subtemporal Decompression in a Case of Chronic Nephritis with Uremia, with Especial Consideration of the Neuroretinal Lesion. H. Cushing and J. Bordley, Baltimore.
32 *Physical Therapeutics. R. T. MacKenzie, Philadelphia.
33 *Present Status of Serum and Vaccine Therapy. M. W. Richardson, Boston.
34 *Paravertebral Triangle of Dulness (Grocco's Sign) in Pregnancy. F. Smithies, Ann Arbor, Mich.
35 *Effect of Overcivilization on Maternity. F. S. Newell, Boston.
36 Relative Severity of the Different Forms of the Toxemia of Pregnancy and Its Bearing on the Treatment. C. Foulkrod, Philadelphia.
37 *Occurrence and Significance of Negative Results in Blood-Culture Studies. E. Libman, New York.
38 *Suggestions of the Pupil in General Disease. E. Jackson, Denver.
39 *Raynaud's Disease, Erythromelalgia and the Allied Conditions in Their Relation to Vascular Disease of the Extremities. B. Sachs, New York.
40 *Thrombo-Angitis Obliterans: A Study of the Vascular Lesions Leading to Presenile Spontaneous Gangrene. L. Buerger, New York.
41 Prolonged Use and Toxic Action of Sulphonal. J. E. Talley, Philadelphia.

30. **Arrhythmias of the Heart.**—James reports cases which show: 1, That complete heart block going on to a fatal termination is possible without the Stokes-Adams syndrome being present at any time; 2, that complete Stokes-Adams syndrome may exist in the presence of perfect atrioventricular conduction, an example of which condition has also been mentioned by Lépine; and 3, that there is another and closely allied syndrome, consisting of tachycardia in the presence of mitral and tricuspid regurgitation, associated with syncopal and epileptiform seizures. The physiologic end-result of these conditions is the same as in the Stokes-Adams syndrome, in that many systoles are lost through their being unable to open the aortic valves, while the physiologic origin is entirely different, being in the one case hyperrhythmicity of the atrioventricular bundle, and in the other a blocking of this structure.

31. **Subtemporal Decompression in Chronic Nephritis with Uremia.**—Cushing and Bordley report a case in regard to which they draw the following conclusions: In view of the marked improvement after cerebrospinal decompression, this case supports Traube's hypothesis that the cerebral symptoms present in the so-called state of uremia are largely due to pressure from edema of the cerebral tissue. It goes to show, furthermore, that the condition of so-called albuminuric neuroretinitis is, in large part at least, a local edema of mechanical origin. The case suggests the propriety of permanent decompression in selected instances of renal disease, when medical measures or lumbar puncture have failed to relieve existing cerebral (uremic) symptoms, or when blindness is threatened, owing to rapidly advancing degenerative changes of the nueroretinal tissues.

32. Abstracted in The Journal, June 6, 1908, p. 1929.

33. Abstracted in The Journal, June 13, 1908, p. 2019.

34. **Grocco's Sign in Pregnancy.**—Smithies points out that various observers have succeeded in obtaining a paravertebral dulness in extrathoracic affections—e. g., ascites, subphrenic abscess and multilocular cystadenoma in the abdominal cavity. From the last case Smithies was led to investigate whether similar areas of dulness might not be obtainable in cases in which the abdominal tumor was not pathologic, as in pregnancy. He reports seven cases. The patients were all primiparæ, with ages ranging from 16 to 22 years. Five were pregnant between the eighth and tenth month, one was about fifteen days overdue, and one was pregnant in the sixth month. In only two of the cases did percussion fail to demonstrate a well-marked area of dulness along the spine. The dull areas were roughly triangular, with more or less convex hypotenuses; and they were all to the left of the midvertebral line. In all cases, examination of the thorax was negative. The paravertebral area of dulness were not so distinctly triangular in outline as those that are percussed in cases of simple effusion into the pleural sacs. The hypotenuses appeared to be more markedly convex than in cases of effusion, and there was a tendency for the paravertebral dulness to be flat-topped. In two cases the hypotenuses were at a rather higher level than the point at which the line met the spine. Moderately strong percussion strokes were used to delimit the dull areas. The triangles were generally larger when the patients lay or leaned to the left, and rather smaller, although sometimes higher, when the patients leaned to the right. There were no definite auscultatory signs over the areas or over the lung adjacent thereto. There were two cases in which the paravertebral dulness could not be percussed on either side of the spine, in whatever position the patient was placed. The paravertebral dulness in pregnancy appears to be due primarily to the abdominal tumor.

35. **Overcivilization and Maternity.**—To Newell, the conclusion seems inevitable that a type of woman formerly very rare is now becoming relatively common. He illustrates this by three case histories. The working woman—the type usually seen in hospitals—generally goes through her pregnancy and labor as the natural process it is commonly supposed to be. With the overcivilized woman, on the other hand, either great variations from the normal are possible in individual cases, or differences in class and environment have developed new conditions which will eventually necessitate the development of a new procedure. Pregnancy entails in the latter a marked reaction in which nervous symptoms are most likely to be exaggerated. Faulty elimination and autointoxication are more common, the woman is unduly sensitive to outward influences and minor discomforts. She often comes to labor, consequently, in a condition physically unfit to withstand any serious strain. The convalescence is apt to be long and unsatisfactory and we have also to reckon with a nervous breakdown. Nursing is impossible, or if satisfactory at first, has to be given up in three months or so. The elimination of the unfit during infancy, more common in the poorer than the better classes, while doubtless a factor, can not alone explain the prevalent conditions. The city-bred girl of to-day, carefully shielded from undesirable surroundings, is brought up like a hothouse plant, lacking outdoor exercise and fresh air, is overstrained at school, and the strain continued out of school with the pursuit of accomplishments such as music practice, etc. Later, her hours are late and social engagements many, and even if athletic, the time spent on golf, tennis, etc., is taken from the rest period, during which the girl of a previous generation was recuperating from the strain of social obligations, balls, etc. It is necessary to take into consideration the need of change in methods which is entailed by this condition. If the patient is not only to be delivered alive, with a living child, but is to be brought through in such nervous and physical condition that she will be able to assume the function and duties properly belonging to her after convalescence, she must be watched through her pregnancy; and if, after due consideration, the obstetrician has decided that a certain patient will probably go through labor badly, immediate delivery must be undertaken, no matter what the stage of labor, at the first indication of unfavorable signs. When it seems absolutely certain that labor will be unsatisfactory, pregnancy should be ended at a set date by operative procedures, by the method least liable to result in injurious effects to the future health of the patient. Until recently in the absence of definite pelvic contraction or faulty relation between maternal and fetal parts, operation was limited to forceps or version. But the author says that in the case of an elderly primipara with rigid soft parts, the dangers of a pelvic delivery leaving serious after-effects are materially increased, and in these cases there is no question that abdominal delivery will probably give the best results. Cesarean section, performed before the beginning of labor under proper conditions and by a competent operator, is nowadays practically without danger to life or to health, and there can be no doubt that in many cases it offers distinctly the best chance for a proper recovery.

37, 39, 40. Abstracted in The Journal, June 13, 1908, p. 2018.

38. **The Pupil in Disease.**—Jackson says that much that ha-

been written about the pupil in relation to general disease, is mistaken and misleading. The pupil furnishes no pathognomonic symptoms of general disease and does not finally settle any doubtful questions of diagnosis. Nevertheless it is enormously suggestive to one who is on the lookout for clues, that may be followed up. He quotes Signorelli to the effect that inequality of the pupil usually indicates the side of the body on which the lesion is situated. He refers, as suggestive, to cases of pupillary dilatation situated on the same side as a pulmonary lesion. He considers the probable explanation to be an irritative effect of the pulmonary lesion on the sympathetic. Disease of the spleen and the arch of the aorta appear also to be connected with pupillary symptoms. It ought, he says, to be recognized that all abnormalities of the pupil not due to temporary causes, are suggestive of syphilis.

Journal of Medical Research, Boston.

October.

42 *Recurrent Liposarcoma of the Kidney. G. McConnell, St. Louis.
43 Opsonic Technic. R. E. Walker, Ann Arbor, Mich.
44 *Septicemia with Acute Fibrinopurulent Pericarditis and Hypopyon Iritis Caused by Meningococcus. C. W. Duval, Montreal.
45 *Presence of Nephrotoxic Substances in the Serum of Animals with Experimental Nephritis. R. M. Pearce and H. P. Sawyer, Albany, N. Y.
46 *Hemolytic Reactions in Cases of Human Cancer. R. Weil, New York.
47 *Etiology of an Epidemic of Influenza. Relation of the Influenza Bacillus and Other Organisms to the Recent Epidemic in Boston (1907-08). Comparison with an Interepidemic Period (1902-04). F. T. Lord, Boston.
48 Microscopic Anatomy of *Trichinella spiralis*. C. Frothingham, Boston.
49 Proteolytic Enzyme of Human Milk. A. E. Austin, Boston.

42. **Recurrent Lymphosarcoma of Kidney.**—McConnell seems to think that the tumor described was in reality a hypernephroma that had taken on a fatty change accompanied by a limited malignant tendency.

44. **Meningococcus Septicemia.**—Duval reviews the literature and finds that the meningococcus has been isolated from the blood during life in a comparatively small number of cases, almost in every instance fatal, the body then showing some form of extrameningeal lesion invariably occurring in endothelial-lined cavities. General infection is probably always secondary to the diseases of the meninges.

45. **Nephrotoxins.**—Pearce and Sawyer confirm observations of Lindemann and others, that the serum of dogs with various types of nephritis has a toxic action on the kidney, but they have not been able to demonstrate any nephrotoxic power for the serum of rabbits with experimental nephritis. Consequently, the phenomenon should be used with caution in theoretical discussion of the nature of chronic nephritis.

46. **Hemolysis in Cancer.**—Weil's observations on the isohemolytic power of the serum in human cancer do not support the generalization made by Crile (THE JOURNAL, June 6, page 1883, and July 11, page 158), who regards the reaction as characteristic of cancer.. According to Weil, the method yields results of such a character that great caution and reserve must be exercised in their application to human diagnosis.

47. **Epidemic Influenza.**—Lord found the influenza bacillus present in overwhelming numbers in 25 per cent. of unselected cases of cough and expectoration during the interval between epidemics of typical influenza; but the bacillus was present in only 15 per cent. of the cases with clinical features of influenza during an epidemic. Hence the influenza bacillus, as pointed out also by other investigators, can not be regarded as the principal cause of influenza, but seems to bear the same relation to it as do the pneumococcus, pyogenic cocci, and *Micrococcus catarrhalis* to both epidemic and interepidemic cases.

University of Pennsylvania Medical Bulletin, Philadelphia.

October.

50 The Postgraduate Student. W. G. Spiller, Philadelphia.
51 University Influences. J. G. Clarke, Philadelphia.
52 Actinomycosis of the Vertebræ. J. K. Young, Philadelphia.
53 *Cause of Sudden Death Following Intravenous Injection of the Blood Corpuscles of Foreign Species. A. F. Coca, Philadelphia.
54 The Medical Expert in Court. C. R. Parke, Louisville, Ky.
55 Medical Work in the Philippines. H. J. Nichols, U. S. Army.

53. **Sudden Death Following Injection of Foreign Blood Corpuscles.**—Coca summarizes his study from the Cancer Institute in Heidelberg as follows:

> 1. The cause of sudden death occurring within five minutes after the injection of relatively small amounts of the washed blood corpuscles of a foreign species, is a mechanical obstruction of the lesser circulation, produced by the lodgement of the injected cells in the pulmonary capillaries and arterioles.
>
> 2. The lodgement of the foreign corpuscles in the pulmonary vessels is probably due to an agglutination process.
>
> 3. The presence of specific agglutinins in the blood is not sufficient in itself to produce pulmonary obstruction on injection of the "toxic" corpuscles; an essential adjuvant factor must be assumed to exist in the blood-vessel walls.
>
> 4. Toxic substances have not been demonstrated with certainty as existing in active form in the fresh corpuscles.
>
> 5. The absorption of the specific agglutinins by the corresponding blood corpuscles takes place practically instantaneously.

New York State Journal of Medicine.

October.

56 *Significance of Uterine Bleeding. J. A. Sampson, Albany.
57 *Prostitution. H. P. de Forest, New York.
58 Hypodermic Treatment of Syphilis. A. J. Gilmour, New York.
59 Syphilis of the Gall Bladder and Bile Ducts. R. S. Fowler, Brooklyn.
60 Original Prescriptions vs. "Original Bottles." W. Brady, Elmira, N. Y.
61 Hypodermic Use of Strychnin in Paralyzed Limbs. W. D. Steele, Mongaup Valley, N. Y.
62 Lives of Officers of the Medical Society of the State of New York. (Continued.) J. J. Walsh, New York.

56. Abstracted in THE JOURNAL, Feb. 29, 1908, p. 721.

57. **Prostitution.**—DeForrest details his personal observation of police methods of dealing with prostitution in Germany. He quotes examples of the various notices and warnings, the police regulations, etc., in Berlin, and details the method of examination and the service regulations controlling physicians in Dresden. He discusses the controversy between the abolitionists and the regulators, and reproduces Vorberg's statement of the claims of the two parties. He next discusses the report of the Committee of Seven in New York. He eliminates from the discussion the abstractions of the philosopher and the conclusions of the humanitarian, which are often impractical, and adopts the view of the physician. The following fundamental rules are essential:

> 1. The destruction of the source of the disease, so far as this is possible; and 2, the isolation of all persons affected with the disease from those of the community who are in good health. He refers to the movement recently originated in Iowa for placing venereal diseases on the same footing with other contagious diseases. It is impossible to frame laws that shall eradicate, or even control, sexual desire. Consequently, prostitutes will always ply their trade everywhere. It is probable, however, that even with the present laws on the subject, segregation of prostitutes could be enforced, and they could be driven out from the greater portion of the city to ply their trade only in restricted areas and under such conditions that all outward signs of immorality could be suppressed. The actual medical examination of such women would markedly diminish the cases of veneral diseases, but to make it effectual the men who consort with them should also be examined. The question is necessarily at present academic, wherefore DeForest urges education in sexual matters, both of elders and children.

Interstate Medical Journal, St. Louis.

October.

63 *Development of the External Genital Organs of the Female with Especial Reference to the Hymen. F. J. Taussig, St. Louis.
64 *The Roentgen Ray as an Aid to the Diagnosis of Tuberculosis of the Lungs, with Demonstration of Skiagrams and New Orthodiascope. W. Engelbach and R. D. Carman, St. Louis.
65 Report of a Case of Abdominal Pregnancy. C. M. Nicholson, St. Louis.
66 Instrumental Uterine Perforation. A. G. Schlosstein, St. Louis.

63. **Development of External Genitals.**—Taussig enumerates and discusses the four main theories as to the development of the hymen: 1, The avulvar theory, according to which the hymen is a fold originating from the vulva or sinus urogenitalis; 2. the bilamellate, vulvovaginal theory, that one fold of the vulva and one of the vagina coalesce to form the hymen; 3. the unilamellate vulvovaginal theory, that one side of the hymen is composed of vaginal, the other of vulvar tissue, the hymen developing from the membrane left at the point where the Muellerian ducts enter the urogenital sinus. This is the one at present accepted by most anatomists; 4. von Dohrn's vaginal theory, that the hymen is formed after the breaking through of the coalesced Muellerian ducts into the urogenital sinus, and at a point further up in the coalesced ducts. Taussig has made serial sections, including the ex-

tire pelvic organs (illustrations of which are given in six cases), and finds that his investigations support von Dorhn's theory, but they involve the interpretation of certain structures that were not recognized by him and to a great extent they explain the divergence of opinion. He found that in embryos of 16 to 18 cms. length, at the point where the Muellerian ducts break into the urogenital sinus, there is at times a well-defined fold, such as is described by Nabel as the hymen. At this time there is no decided connective tissue proliferation. Immediately following this stage, in embryos of 20 to 22 cms. length, such proliferation takes place. One long fold of vaginal tissue projects just internally to the fold at the entrance, until the vaginal lumen is almost wholly closed at this time. This is not merely a fold, such as the one in the 16 cm. embryo was, but is a thick well-defined membrane. In later stages, 28 to 30 cms. embryos, the original fold can still be distinguished extending from the dorsal side of the vulvovaginal opening, but it is not proportionately very much smaller, so that it might readily be overlooked beside the fleshy membrane of vaginal origin lying further inward, the true hymen. There are at this time no secondary papillæ or folds, such as are to be found in the vagina of the full-term fetus, so that it could not be said that this structure which Taussig takes to be the hymen is merely such a secondary fold or papilla. It is a thick fleshy occluding membrane, the only membrane found. A further proof that it is purely vaginal in origin is the fact that even at birth it is lined on both sides by the same vaginal epithelium. The difference in the character of vaginal and vulvar epithelium is evident from the illustrations appended. The connective tissue fibers which go to make up the hymen are directly continuous with the vaginal connective tissue fibers, and are in no wise associated with the vulvar connective tissue. Finally, the hymen has papillæ on both sides, and the edges of its orifice or orifices are often irregular, as one would expect in a membrane resulting from a proliferative process, but such as one would not expect in a membrane resulting from a ring-like dilatation.

64. See abstract No. 82.

Monthly Cyclopedia and Medical Bulletin, Philadelphia.

October.

67 *The Sick Child. T. M. Rotch, Boston.
68 Graduated Labor in Pulmonary Tuberculosis. J. Walsh, Philadelphia.
69 Laryngeal Complications of Typhoid. J. S. Gibb, Philadelphia.
70 Case of Intestinal Obstruction. L. Stewart-Cogill.
71 Are Medical Books Ten Years Old Valueless? E. Cutter, Boston.

67. **The Sick Child.**—Rotch urges the importance of understanding that the infant and child are neither mentally nor physically the same as the fully developed adult. All the tissues, all the mental and physical conditions, differ widely between the first year and the second. The infant at birth is a mere automaton. Rotch describes the progress of development through the first, second and third years. With regard to children, he points out that the chronologic age is not necessarily the true age. It is the anatomic age which practically determines what the child can and should do mentally and physically without harm. Rotch urges the importance of a clear conception of the normal in the healthy infant and child. When one knows how the healthy infant or child ought to look and to behave, it will be easier to recognize how such individuals look and behave when ill. Illness is often overlooked on the ground that a child is spoiled; it is difficult to spoil a healthy child. The buoyancy, cheerfulness and good nature of young children come from a feeling of comfort and general vigor produced by healthy tissues and normal functions. The healthy child rebounds quickly from a cross word, while a sick child resents it and dwells on it. It is difficult to locate the source of pain in very young children and babies. The stomach is often blamed for reflex localized pains. Different children have different temperaments. Some have easily excited nerves, others quiescent nerves. Rotch discusses the confounding of dulness, stupidity, laziness, and other supposed mental conditions, with physical disease.

Journal of the Michigan State Medical Society, Detroit.

October.

72 Surgical Treatment of Acute Otitis Media. V. A. Chapman, Muskegon.
73 *Treatment of Exophthalmic Goiter. J. C. Solis, Ann Arbor.
74 Metastatic Sarcoma with Special Involvement of the Osseous System. R. E. Wells, Traverse City.
75 What the Manufacturing Druggist Does for the Doctor. M. P. Kemp, Detroit.
76 Differential Leucocytic Estimation in Diagnosis of Abdominal Neoplasms. W. A. Repp, Detroit.
77 Asepsis in Obstetrics. E. T. Abrams, Dollar Bay.
78 Diagnosis and Treatment of Some Cardiac Arrhythmias. H. A. Freund, Detroit.

73. Abstracted in The Journal, Aug. 22, 1908, p. 699.

Journal Missouri State Medical Association, St. Louis.

October.

79 *Postoperative Gas Distention of the Abdomen, with Suggestion for Prevention. F. J. Moenninghoff, Kansas City.
80 Infections of the Knee Joint and Their Treatment. W. C. Kirchner, St. Louis.
81 Prophylaxis of Fatty Degeneration of the Heart Muscles. B. H. Zwart, Kansas City.
82 *The Roentgen Ray as an Aid to the Diagnosis of Tuberculosis of the Lungs, with Demonstration of Skiagrams and New Orthodiascope. W. Engelbach and R. D. Carman, St. Louis.
83 The Passing of an Old Therapy. O. L. Peak, Springfield.
84 Traumatic Neurosis, or Railway Spine. C. R. Dudley, Hannibal.
85 Hip-Joint Disease. G. B. Schulz, Cape Girardeau.
86 Removal of the Lachrymal Sac. J. H. Thompson, Kansas City.
87 The State's Duty to Its Citizens from a Medical Standpoint. J. A. McComb, Lebanon.

November.

88 Ocular Tuberculin Reaction. Observations of One Hundred Cases, with a Summary of the Observations of Others. A. W. McAlester, Kansas City.
89 Early Positive Diagnosis of Tuberculosis and Use of Tuberculin in Diagnosis and Treatment. E. H. Shorer, Columbia.
90 The Care of the Consumptive. E. W. Schauffler, Kansas City.
91 Public Education Against Tuberculosis Infection. T. F. Lockwood, Butler.
92 Universities and Colleges as Factors in the Antituberculosis Educational Campaign. W. McN. Miller, Columbia.
93 Case of Peritoneal Pseudomyxoma. O. B. Campbell, St. Joseph.
94 The County Medical Society. W. F. Mitchell, Lancaster, Mo.

79. **Postoperative Gas Distention of Abdomen.**—Moenninghoff speaks well of the use of eserin salicylate hypodermatically in laparotomy as a prophylactic against distention. He gives 1/40 grain, immediately after the patient has returned to bed. Subsequent doses may be given but are rarely required. He has never seen any bad after-effects. He also has seen good results at the hands of Dr. H. E. Pearce from the application of a 500 candle-power leucodescent light, and considers Gelinsky's method of superheated air worthy of trial.

82. **The Roentgen Ray and Tuberculosis.**—Engelbach and Carman conclude that the *x*-ray examination is a valuable adjunct to the diagnosis of pulmonary tuberculosis for the following reasons:

1. Many of the indefinite anatomic conditions of the pleura are easily demonstrated positively.
2. The lesions of the third stage of tuberculosis (infiltrations and cavities) can be diagnosticated positively as to size, number and location.
3. The extent of known tuberculous lesions of the second stage (infiltrations and beginning lesions) are demonstrated more accurately than by physical findings alone.
4. Combined with the clinical and physical findings it affords valuable evidence in the diagnosis of a majority of the cases of incipient tuberculosis.

Texas State Journal of Medicine, Forth Worth.

October.

95 Case of Popliteal Aneurism. S. C. Red, Houston.
96 Case of Carcinoma of the Stomach Grafted on a Chronic Ulcer—Discussion of Its Frequency. J. T. Moore, Galveston.
97 *Relationship Between Pelvic Diseases and Diseases of the Mind and Nervous System. G. H. Moody, San Antonio.
98 Conservative Treatment of Mutilated Extremities. R. L. Ramey, El Paso.
99 Operation for Nasal Pressure and Reflex Pain. J. Mullen, Houston.
100 The Gonococcus: Its Relation to the Practice of Obstetrics and Gynecology. W. F. Thompson, Beaumont.
101 Hemorrhage and Shock as Postoperative Complications. W. W. Lynch, Midland.
102 Postpartum Hemorrhage—Causes and Treatment. J. E. Dildy, Lampasas.
103 Trachoma with Report of Cases. D. T. Atkinson, Dallas.
104 Postclimacteric Hemorrhage. R. R. White, Temple.
105 Therapeutic Pessimism. J. N. Mendenhall, Plano.

97. **Pelvic Diseases and Mental Disorders.**—Moody says that in considering pelvic diseases as causative factors in disea-

of the mind and nervous system, we must not forget to eliminate all such psychoses as the puerperal and lactational insanities, etc. These come under the head of infection or exhaustion or toxic psychoses, and occur frequently when no pelvic disease exists, in some women of a more or less profound neuropathic constitution, in others when menstruation is temporarily suspended for any trivial cause, and in yet others during the entire course of pregnancy at intervals corresponding to the menstrual periods. The cause of the nervous derangement in these cases can not be assigned to disease of a pelvic organ. It is merely due to the inability of the nervous system to withstand stimuli which, in a healthy individual, would result in normal physiologic changes. The psychoses and neuroses of the menopause are also to be eliminated. The menopause is not a disease condition, but a normal physiologic epoch, as is also pubescence. Each marks a physiologic transition which, in neurotic individuals, may create considerable shock to the nervous system. Many serious neuroses and insanities are precipitated at these periods of life, and those of puberty as frequently in males as in females. Masturbation in the female is no more due to a pelvic disease than it is in the male. Where there are preputial adhesions, or malpositions or adhesions of the clitoris or of other external genitals, their correction is of the greatest importance. Outside of these few instances of physical displacements and defects, masturbation in both sexes is a manifestation of a neuropathic condition, and its existence can no more be assigned to diseased ovary in the female than to a diseased testicle in the male. The radical treatment by ovariotomy is justifiable in the same degree as is asexualization in the male. Reference should be made to the possible effects of mental and nervous diseases on the female organs. Just as a lack of sufficient muscular tonicity in the intestines may cause constipation, and as a lack of general muscular tonicity due to nervous exhaustion may cause gastroptosis, gastric dilatation, strabismus, splenic displacement, etc., so will it cause uterine and ovarian displacement, endometritis, etc. Local treatment of any of these conditions will not cure the patients. In all these conditions the treatment of the local disease is secondary in importance to those measures which restore the nervous exhaustion, conserve nervous force and re-establish normal nutrition.

St. Paul Medical Journal.

October.

106 *Diagnosis and Treatment of Kidney Stones. A. D. Bevan, Chicago.
107 Syphilis of the Liver, with Special Reference to Diagnosis. M. M. Ghent, St. Paul.
108 Tests of Renal Function. W. A. Dennis, St. Paul.
109 *Plea for a More Painstaking Supervision of the Pregnant Woman. F. Leavitt, St. Paul.
110 *Shock and Its Treatment. C. S. Bigelow, Dodge Center, Minn.

106. **Kidney Stones.**—This article is practically identical with that by Bevan, abstracted in THE JOURNAL, May 30, 1908, p. 1825, and that by Bevan and Smith, published in *Surgery, Gynecology and Obstetrics*, June, 1908.

109. **The Pregnant Woman.**—Leavitt urges more attention to the period of pregnancy and the watching and studying of the forces engaged, mental as well as physical, so that we may be prepared to lend a hand when the critical moment comes.

110. Published in the *Northwestern Lancet*, Sept. 15, 1908.

Annals of Ophthalmology, St. Louis.

October.

111 *Mixed Streptococcus and Pneumococcus Infection of the Orbit and Adjacent Sinuses. C. S. Bull, New York.
112 Ocular Infection Associated with Disease of the Sinuses Contiguous to the Orbit. S. D. Risley, Philadelphia.
113 *Diffuse Interstitial Keratitis in Acquired Syphilis. J. T. Carpenter, Philadelphia.
114 Teleology and Interpretation of Nystagmus. P. Fridenburg, New York.
115 *Two Cases of Sympathetic Ophthalmia. E. S. Thomson, New York.
116 Angioma of the Chorioid. A. Quackenboss, Boston.
117 Angioma of the Orbit, with Invasion of the Globe Along the Ciliary Nerves. A. Quackenboss, Boston.
118 Recurrent Traumatic Erosion of the Cornea Due to Lachrymal Stricture. R. J. Curdy, Kansas City, Mo.

111. **Infections of the Orbit.**—Bull studies mixed pneumococcus and streptococcus infection of orbit and adjacent sinuses in a series of cases and emphasizes the following points:

The marked insidiousness of the attack, and the varying duration of the period of incubation.

The extreme violence of the symptoms in the sudden onset of the attack.

The very rapid rise of temperature and the equally sudden fall after operative interference has opened the purulent deposit.

The rapid development and violence of the symptoms point apparently to an unfavorable prognosis. Immediate and active interference, with free incisions, thorough curetting and irrigation, and prolonged and careful hunting for the purulent foci, soon bring about a more favorable condition.

The necessity for great vigilance in watching the cases and searching for new foci on any sudden and rapid rise in temperature.

The patients were all young, the oldest being 21 and the youngest 9 months old.

In only one case was the eye lost from suppuration.

113. **Interstitial Keratitis in Acquired Syphilis.**—Carpenter holds that the rarity of diffuse interstitial keratitis due to syphilitic infection is more apparent than real, because we are apt to overlook the possibility of acquired syphilis in young patients. He discusses the symptomatology, and points out that, contrary to the rule in the inherited form, the interstitial keratitis in acquired syphilis almost invariably attacks only one eye. The period of onset varies within wide limits, from three weeks to twenty-three years. Iritis and vitreous opacities, etc., well forward in the chorioid, though not unusual, are far less frequent than in the inherited type. He discusses the pathology, which is naturally somewhat indefinite, since opportunities of microscopic examination in keratitis of acquired syphilis are rare. This condition is a disease of adult life, occurring usually between the ages of 20 and 50, though it has been found in childhood and infancy. Next in etiologic importance to syphilis as a cause of interstitial keratitis is tuberculosis. Pflüger has reported thirty-six cases due to influenza. Interstitial keratitis due to acquired syphilis responds with remarkable promptitude to antisyphilitic remedies. The local treatment does not differ from that of ordinary interstitial keratitis—atropin, dionin, and rest of the inflamed organ, followed by massage with the ointment of the yellow oxid of mercury.

115. **Sympathetic Ophthalmia.**—Thomson reports two cases which terminated favorably and discusses the condition. He concludes as follows: For general administration, the drugs which resist plastic formation—the salicylates, mercury, potassium iodid and quinin—have been long advocated and continue to be our only hopeful line of treatment. The chief value of mercury is probably in cases with latent specific tendency, and, on account of the difficulty of excluding this, it is almost always wise to begin treatment by a vigorous exhibition of mercury by inunctions. The tonic value of quinin can not be denied, but personally Thomson has not had much success in its administration in this class of cases. It is difficult to give very large doses, the toxic effects are annoying, and he has always been in doubt as to its real value. Potassium iodid is of value principally in the later stages of the attack.

Ophthalmology, Milwaukee.

October.

119 *Artificial Illumination of School Rooms. M. Standish, Boston.
120 Treatment of Chronic Simple Glaucoma. C. A. Veasey, Philadelphia.
121 Glaucoma Following Secondary Cataract (Capsular) Operation, with Report of Three Cases. F. E. Cheney, Boston.
122 Microphthalmia. H. H. B. Cunningham, Belfast, Ireland.
123 Papilloma of the Cornea. E. Smith, Detroit.
124 Extirpation of the Lachrymal Sac, When and How? J. S. Wyler, Cincinnati.
125 Ocular Symptoms of Ethmoidal Disease. F. Krauss, Philadelphia.
126 Solution of Dr. George T. Stevens' "New Phenomenon of Color Conversion." E. E. Blaauw, Buffalo, N. Y.

119. **Schoolrooms.**—Standish gives the following as the essential factors in the proper illumination of school rooms:

1. The walls should be painted a very light color, preferably an exceedingly pale green or buff.
2. The wooden finish of the room and desks should be light in color.
3. The window shades should be able to exclude direct rays of the sun, diffuse daylight freely, and also in the evening reflect a generous proportion of the light which falls on them.
4. Direct illumination is desirable.
5. The lighting stations should be so arranged that no annoying shadows shall fall on the pupil's desk.
6. The newer forms of incandescent lamps and Zalinsky shades, when properly arranged, can give a candle foot illumination of 2.5 on each and every desk in the ordinary school room; and finally,
7. In most cities the expense of electricity, used in the manner above described, is not so much greater than the cost of gas as to be prohibitive.

Journal of the Arkansas Medical Society, Little Rock.

October.

127 *Five Cases of Intestinal Obstruction. W. A. Snodgras, Little Rock.
128 Abdominal Ectopic Pregnancy of Seventeen Months' Duration. R. C. Dorr, Batesville.
129 *Case of Abdominal Pregnancy. A. G. Dickson, Paragould.
130 Case of Hematocolpos and Hematometra. L. E. Willis, Newport.
131 *Obstipation: Is It a Symptom or a Disease? O. C. Howton, Osceola.

127, 129, 131. Abstracted in THE JOURNAL, July 18, 1908, pp. 249, 250.

Laryngoscope, St. Louis.

October.

132 Surgery of External Nasal Deformities. J. C. Beck, Chicago.
133 Correction of Nasal Deformities. J. O. Roe, Rochester, N. Y.
134 Correction of Nasal Deformities by Use of Paraffin. H. Smith, New York.
135 Repair of Harelip and Cleft Palate. J. F. Barnhill, Indianapolis.
136 Cosmetic and Plastic Surgery of the Ear. M. A. Goldstein, St. Louis.

Archives of Otology, New York.

October.

137 Points in the Surgical Anatomy of the Temporal Bone Bearing on the Spread and Cure of Suppuration. A. H. Cheatle, London, England.
138 Improvements of the Respirometer and Its Disinfection. C. A. Bucklin, New York.
139 Increase of the Specific Gravity of Pus in Otitis Media Suppurativa Acuta as an Indication for Opening the Mastoid Process, and Errors Connected with Hammerschlag's Method. P. T. Hald, Copenhagen, Denmark.

Long Island Medical Journal, Brooklyn.

October.

140 The Living Pathology of the Operating Table: Its Observation a Necessary Means to Accurate Diagnosis in Abdominal Diseases. R. W. Westbrook, Brooklyn.
141 Hebosteotomy. C. Jewett, Brooklyn.
142 Reliability of Sterilized and Pasteurized Milk as an Infant Food. L. Kerr, Brooklyn.
143 Bovine Tuberculosis and Certified Milk. H. Moak, Brooklyn.

November.

144 Present Practice in Sewage Purification. E. J. Fort, Brooklyn.
145 Significance of Pain in the Lower Left Quadrant of the Abdomen. J. T. Pilcher, Brooklyn.
146 Fevers of Intestinal Origin in Children. E. H. Bartley, Brooklyn.
147 Therapeutic Prejudices. E. E. Cornwall, Brooklyn.

Dominion Medical Monthly, Toronto.

November.

148 Hydrotherapy in Mental and Nervous Diseases. A. T. Hobbs, Guelph, Ontario.
149 Our Experience in Bronchopneumonia. C. S. McVicar, Toronto.
150 Influenza and Its Treatment. G. C. Meier, New York.
151 Three Cases of Gastric Ulcers with Perforation. W. E. Olmstead, Niagara Falls, Ont.
152 Intermittent Continuous Filtration System. T. A. Murray.

Journal of the South Carolina Medical Association, Greenville.

October.

153 New and Effective System of School Hygiene. E. A. Hines, Seneca.
154 Ultimate Results Obtained from Surgical, in Comparison with Medical Treatment, in Certain Ovarian Diseases and in All Ovarian Neuroses. J. A. Hodges, Richmond, Va.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

October 31.

1 Lupus Erythematosus: Its Nature and Treatment. J. M. H. MacLeod.
2 *Endemic Cretinism in the Chitral and Gilgit Valleys. R. McCarrison.
3 *Administration of Tuberculin in Pulmonary Tuberculosis. A. Latham and A. C. Inman.
4 Some Unusual Sequelæ of Convulsive Seizures in Childhood. F. J. Poynton.

2. **Cretinism.**—McCarrison, as the result of an analysis of 203 cases, collected by house-to-house examination of almost every goitrous village in an area of 500 miles in the Himalayas, discusses the subject under the following heads:

1, The incidence of cretinism and its relationship to the incidence of goiter; 2, goiter in the individual and its relationship to cretinism; 3, goiter in the mother and its relationship to cretinism; 4, *debilitating factors* and their influence on the mother in producing cretinism; 5, types *of the disease* with associated symptoms. He draws the following conclusions:

1. The degree to which cretinism is associated with goiter is determined by the age of the endemic, and varies directly with the extent *to* which the *latter* disease prevails among the adult population.
2. Cretinism is rarely, if ever, due *to* the development of a goiter in the individual. The thyroid enlargement is, or may be, an effect: it is not the cause of the disease.
3. Defective thyroid function in the mother is the essential factor in the production of cretinism.
4. *Cretinism is due to the action of toxic* agents, notably that of endemic goiter, on the developing thyroid of the unborn child.
5. The thyroid defect is congenital, but it *may remain* latent pending its manifestations through the impulse of some accidental circumstance.
6. The defect in cretinism is one of the whole thyroid mechanism, of the parathyroids, as well as of the thyroid gland. The diversity *of symptoms* is *due to the* extent to which the defect bears on the whole or part of that mechanism.

3. **Tuberculin Treatment of Pulmonary Tuberculosis.**—Latham and Inman report further investigations, supplementary to their communication to the Royal Society of Medicine, *April* 1908, with regard to administration of tuberculin in pulmonary and other tuberculosis. They reach the following conclusions:

1. Tuberculin may be given with effect by the mouth or rectum or subcutaneously. The dosage is dissimilar, but animal experiments, opsonic curves, and temperature charts show that the effects produced are the same.
2. The administration of tuberculin meets with little, if any, success so long as successive autoinoculations spontaneously occur and can not be limited by the means at our command. Absolute rest is the most efficient means for limiting autoinoculation.
3. The administration of tuberculin may be adequately controlled in a large percentage of cases of pulmonary tuberculosis by a careful daily observation of the temperature and clinical condition of the patient on the lines indicated above.
4. In cases of difficulty valuable information may often be obtained from an examination of the opsonic index.
5. The German method of the routine administration of tuberculin by gradually increasing doses at stated intervals is not to be recommended. It is only satisfactory in a limited class of cases, and even then may not lead to the best results.
6. Tuberculin is a dangerous drug and its administration requires *considerable* experience. *It is capable, when given improperly, of* producing disastrous and even fatal results.

British Medical Journal, London.

October 31.

5 Work of the Research Defense Society. S. Paget.
6 *Limitations of a Purin-Free Diet. A. Bryce.
7 Tropical Abscess of the Liver Rapidly Cured by the Flexible Sheathed Trocar. L. Rogers.
8 Outbreak of an Acute Infectious Eruptive Disease (Rubella). M. B. Arnold.
9 *Home Treatment of Scarlet Fever. R. Milne.
10 Cerebrospinal Meningitis. W. St. C. Symmers.
11 *Serum Treatment of Cerebrospinal Meningitis. L. E. Holt.
12 Multiple Diverticula of the Sigmoid. W. H. M. Telling.
13 *Sanitation in Reference to Ankylostomiasis in the Tropics. Sir P. Manson.
14 Ankylostomiasis in British Guiana. W. F. Law.
15 Ankylostomiasis in South *Africa.* G. A. *Turner.*
16 Sleeping Sickness with Nervous and Mental Symptoms. L. Nattan-Larrier.
17 Bilharziasis Among Women and Girls in Egypt. B. S. Elgood.
18 *Diagnosis of Latent Malaria. A. Plehn.
19 Rare Nervous Symptoms Produced by *Malaria.* M. *Watson.*
20 Lymphatic Diseases in the Tropics. C. W. Daniels.
21 Palliative Treatment of Elephantiasis. A. Castellani.
22 *Causation and Treatment of Scurvy, Especially Infantile Scurvy. Sir A. Wright.

6. **Purin-Free Diet.**—Bryce says that the advantages of a purin-free diet are sometimes so notable as to arouse a tendency to uncritical enthusiasm. After a few years' experience one does not remain quite so sanguine as to its being a universal cure. He records cases of various conditions in which results have not been altogether favorable, and discusses the purin-free diet in this light with regard to periodical headaches, epilepsy, asthma, neurasthenia and various *other* conditions. He says that personal idiosyncrasy has much to do with the diverse results reported, and in his opinion, this is ultimately bound up with the *metabolic activity of the* cells, and especially the ability of the cells of the mucous membrane to withstand the onslaught of irritants, such as *purin* compounds. Small quantities of purin are almost invariably well borne, and only in isolated cases are larger doses not tolerated. The ability to tolerate purins is *markedly* influenced by disease—for example, neurasthenia, so called, and kidney ailments in which the integrity of the cells of *the* convoluted tubules is doubtful—yet a *man* in perfect health, with a so-called gouty *tendency may* tolerate them badly because they act as irritants to the mucous *membrane of* the hepatic ducts, and *produce* hepatic insufficiency.

9. **Home Treatment of Scarlet Fever.**—On the basis of an experience of many hundred cases of scarlet fever Milne is satisfied that the method of anointing the patient with 10 per cent. carbolic oil or eucalyptus oil day by day, and a plentiful supply of fresh air prevents the disease from spreading. After a few days his patients were allowed to mingle freely with other people. He reports many instances in which this practice has been followed—notably one in which he brought such a patient as a guest into his own home, allowing him to mingle freely with his children at meals and at games—without ill results. Milne now prefers eucalyptus oil which is rubbed in over the entire body from the crown of the head to the soles of the feet, including the roots of the hair, the axillæ and other flexures, both morning and evening for the first four days, then once daily until the tenth day. The throat is swabbed with carbolic oil, 10 per cent., every two hours for the first twenty-four hours. Milne has never known nose, ear or kidney trouble to follow, and the severity of the attack appears to be always mitigated. Cold must be avoided for three weeks and the children warmly clad. At first he allows only soda water or hot water and milk in equal quantities; in a few days he permits light diet, and by the tenth day ordinary meals. He has applied this method also in measles. This method, he asserts, dispenses with the need of elaborate disinfection afterward, the source of the disease being destroyed. Of course it protects only against contact infection and would not check an epidemic arising from a common source, such as infected milk.

11. **Cerebrospinal Meningitis.**—Holt reports 442 cases treated with the serum of Flexner and Jobling. He thinks that the evidence submitted must convince any candid mind that the course of cerebrospinal meningitis and its termination are distinctly modified by this treatment.

13. **Sanitation and Ankylostomiasis.**—Manson discusses the expulsion of the worm by thymol, beta-naphthol, eucalyptus oil in combination with chloroform and castor oil, the prevention of contact with foul ground, and the disposal of feces, which last he considers the only practicable method of effectively dealing with the disease as an endemic. In native villages and scattered communities he suggests that the responsibility for the observance of a latrine ordinance should be fixed on some local notable or official. As subsidiary methods he suggests:

(a) Making use of the local postoffices for the sale at cost price of anthelmintics, just as has been done so successfully in India in connection with quinin. (b) The scattering broadcast of leaflets or posters explaining in simple language the symptoms, nature, treatment and prophylaxis of ankylostomiasis anemia. (c) The teaching in schools by pictures and object lessons the natural history of the parasite and its effects and the importance of avoiding infection.

18. **Latent Malaria.**—Plehn discusses three phases in latent malaria and calls attention to urobilinuria as a symptom easily to be observed and indicating latent malaria after the disappearance of other signs. He uses Schlesinger's method, which is as follows: To the unfiltered urine add an equal quantity of a solution of 10 parts of zinc acetate in absolute alcohol in a test tube. Shake it well and add a few drops of Lugol's solution, stirring it again. Afterward the filtered mixture shows fluorescence more or less intensively according to its content of urobilin. Urobilinuria is not a specific sign of malaria but a symptom of liver disturbance. But in every case a strong urobilinuria after malarial infection proves that the organs have not yet recovered. It seems to be missing in the primary stage of latent malaria.

22. **Scurvy.**—Wright says that an examination of the dietaries of travelers whose supplies have been limited to certain articles and of those in great poverty who have tried to support life on tea and bread alone shows that a diet of meat and cereals or cereals alone produces scurvy, as do those foodstuffs which on incineration show mineral acids and especially phosphoric acid in excess over mineral bases. Such facts so far as they go would seem to suggest that scorbutic foods produce scurvy by introducing into the system excessive mineral acid. In cases of infantile scurvy examination of bone has shown that decalcification is going on, suggesting the presence of excess of acid or absorption or solution of lime salts. For the treatment of established scurvy the most direct mode is to administer the desired alkali in combination with an organic acid, e. g., sodium lactate. These substitutes are easily transformed in the blood into the corresponding carbonates. Another principle should be to replace the calcium and magnesium salts which may have been abstracted from the tissues. Reduction of the coagulability of the blood is present in this disease. This seems to contraindicate to some extent the use of lime juice and orange juice.

Medical Press and Circular, London.

October 28

26. Clinical Investigation in Early Infancy. M. Marfan.
27. Case in which a Portion of a Lung was Excised. R. Morison.
28. X-Ray Treatment of Exophthalmic Goiter. C. T. Holland.
29. *Tropical or Amebic Abscess of the Liver as a Preventable Disease. L. Rogers.

29. **Prevention of Tropical Liver Abscess.**—Rogers urges the reinstatement of the ipecacuanha treatment, 30 grains (1.95), or in less acute cases, 20 grains (1.30), of chloral hydrate. No food or fluid should be given for three hours before or after the dose. He compares the rejection of the ipecac treatment to the substitution, early in the nineteenth century, of venesection and salivation for the empirical quinin treatment, which was not restored to use again till 1847. Amebic ulcer of the great bowel is readily curable by ipecacuanha, and on this ulcer, Rogers holds, the liver abscess depends.

Clinical Journal, London.

October 28

30. *Transient Heart Murmurs. S. West.
31. Treatment of Gonorrheal Affections and of Some Forms of Arthritis of Uncertain Origin. J. P. Parkinson.
32. Management of Squint. A. A. Bradburne.

30. **Transient Heart Murmurs.**—West defines a murmur as "an abnormal noise heard between the heart sounds when nothing ought to be heard in health." He discusses transient aortic systolic murmurs, which are frequently due to excitement. This leads to temporary dilatation of the aorta with a consequent murmur which disappears as soon as the dilatation passes off. Hemic or venous murmurs and transient murmurs during chorea and rheumatic fever are discussed. He then raises the question of the so-called dilatation murmurs. He reviews the statement of Ludwig and Hasse, that the valves of the heart are not in health completely competent to close the orifices of the heart unless by means of the muscular contraction the orifice is first narrowed, and says that the statement rests on certain physiologic experiments of a very crude character, which, so far as he knows, have never been confirmed, and against which there is the strongest possible clinical evidence. He gives clinical reasons for the view that these murmurs are due to eddies set up within the dilated cavity itself.

Journal of Tropical Medicine and Hygiene, London.

October 15

33. Case of Myiasis. J. H. H. Harrison.
34. Therapy in Yaws and in Tropical Ulcer. G. P. Heard.

Glasgow Medical Journal

October

35. An Obstetric Diary of William Hunter (continued). J. N. Stark.
36. Multiple Telangiectases: Three Cases in One Family. A. J. Ballantyne.
37. Choice of a General Anesthetic. J. K. Patrick.
38. Surgical Treatment of Facial Paralysis. C. G. Cumston.

Annales de Gynécologie et d'Obstétrique, Paris

October, XXXI, No. 5, pp. 577-640

39. Research on the Human Yolk-sac. (La vesicule ombilicale de l'homme.) A. Bianca.
40. Laceration of Perineum Treated by Simpson-Vicarelli Technic. (Trois cas de laceration perineale complete traites avec le procedé Simpson-Vicarelli.) T. Soli.

Annales de Médecine et Chirurgie, Paris.

October 1, XII, No. 19, pp. [illegible]

41. *The Child After the Age of 2. (L'enfance. Ses périodes. Ses maladies.) A. B. Marfan.
42. Large Hernias in Children. (Les grosses hernies inguinales et ombilicales chez l'enfant.) I. Gaujoux.

October 15, No. 20, pp. [illegible]

43. Infantile Paralysis with Scoliosis and Muscular Atrophy. I. Carles and Desqueyroux.

41. **The Child.**—The phase of childhood between the ages of 2 and 7 is characterized by the fact that milk is no longer the most important food, and that certain parts of the nervous system are developing actively, especially those which preside over the motor functions and the intelligence. The will power does not become strong until later. This is the age for tracheo-bronchial glandular trouble, tuberculous meningitis, adenoid vegetations and the acute contagious diseases. After the age of 2. the *immunity transmitted by heredity* disappears and the child is less isolated. Children at this age are not more susceptible to contagions, but conditions favor them. The resisting powers are constantly growing stronger and the children generally recover completely from their acute infections. After the age of 7 there is a phase of slow growth until about 12, when there is a sudden and rapid growth up to puberty, but this growth is not harmonious. The trunk is relatively short and the thorax narrow, the heart small and the breathing capacity weak, in proportion to the height. In this period the natural conditions are identical with those which we regard as the "tuberculous constitution" It seems that the so called "candidates for tuberculosis" retain into later life the corporal proportions of the antepuberty period, *and do not grow into normal adult proportions.* Marfan asks: Is this arrest in the development a predisposing cause for tuberculosis, or is it not rather already the effect of latent tuberculosis? The diseases most common at the age of puberty are typhoid fever and acute articular rheumatism, with heart complications, and possibly chorea. Tuberculosis at this age is remarkable for the frequency of the torpid forms and of galloping phthisis, and the localizations in the peritoneum and lower extremities. The thymus has completed its involution and the tonsils commence theirs. Marfan adds that between 6 and 12 the mortality is the lowest for children. The child has paid his tribute to the acute infections, while the growth is slow and harmonious. During the antepuberty phase the child requires special hygiene and restraint from excessive exercise and fatigue. Attention should be paid to strengthening the will power during this period, and Marfan adds that the home surroundings are generally better for this age than most boarding schools. In conclusion, he discusses the question whether pediatrics should be made a specialty, saying that a physician who practices among children must know, to start with, all that a physician has to know who practices only among adults, and besides this, he has to study the childish organism throughout, its unfinished development and energy of growth inducing special characteristic reactions

Bulletin de l'Académie de Médecine, Paris.

October 20 LXXII, No 33, pp 233 264

44 *Therapeutic Action of Adrenalin Applied to the Skin (Action thérapeutique de l'adrénaline employée *en badigeonnage* cutané) G Sardou
45 *Cancer of Body of Pancreas (Cancer du *corps du* pancréas) A Chauffard.

44. **Therapeutic Application of Suprarenal Extract to the Skin.**—Sardou has found that a suprarenal extract applied locally to the skin has a remarkable effect on the tissues below, the constriction and following dilatation of the blood vessels modifying the circulation to such an extent that not only is pain relieved, but lesions are influenced and inflammation given a turn for the better These effects are not constant, and the intensity and persistence of the action of the suprarenal preparation vary with different tissues and decline with repetition. But even with these restrictions, he has succeeded in arresting or attenuating the pain in swollen joints, in contusions, in various processes in the bones, periosteum, and epiphyses, *congestive* headache, neuralgia, sciatica, rheumatic pains, traumatic joint affections and fractures and inflamed varices. Even the viscera feel the soothing effect, pain in the liver, kidneys, bladder, stomach and intestines being relieved, he asserts, by painting the surface with adrenalin, and spasmodic congestion subsides He has also found it useful in congestive suffocating spasms in an asthmatic and a nephritic, relieving the dyspnea. In a case of occlusion of the esophagus from cancerous growth permeability was restored by the action of the extract, and in a cancer of the breast the pain and swelling were much reduced, although the growth continued to progress. The effect was permanent in a case of old rodent ulcer of the face, the modification being so pronounced that subsequent Roentgen treatment completed the cure. In another case the "gymnastics of the blood vessels" induced by the extract allowed the reduction of a strangulated hernia which otherwise would have required surgical intervention, as also in a case of rebellious paraphimosis. It hastens restitution, he states, as for instance when a finger remains swollen and stiff after the healing of some lesion, the suprarenal extract banishes the pain and by reducing the swelling allows the finger to be exercised When there is no solution of continuity there is no danger of secondary hemorrhage, while the rushing back of the blood current has a most stimulating effect on healing processes, and also serves to ward off impending lesions

45. **Cancer of the Pancreas.**—Chauffard calls attention to a syndrome which allows differentiation of a cancer in the body of the pancreas and possibly encourages the hope that the lesion may be diagnosed in time to permit its successful removal. Even when the cancer is far advanced, operative intervention relieves the patient of the excruciating pain which is the predominant feature of this form of malignant disease, owing to the close connection between the body of the *pancreas and* the solar plexus Other features of the syndrome are the frequent desire for defecation—tenesmus of the entire colon—and rapid emaciation. It is rare for a tumor to be palpable, and the absence of jaundice, glandular involvement and of ascites is also striking in these cases There is no glycosuria, and the stools never showed much fat in the cases known. There is little if any vomiting, and jaundice does not appear until in the final stages, but the pain is deep and agonizing, resembling the gastric crises of tabes In the two cases described, the pain was at first on the left side; it lasted for several hours, recurring at intervals of eight or ten days. During the intervals there was no colic or diarrhea, but merely a vague sensation of abdominal tension and tenesmus. After a few weeks the focus of the pain shifts to the median line and then to the right side, and becomes more and more intense and the intervals shorter, and the patient complains of a constant sensation as if laced in a tight corset. One patient was a man of 37, previously healthy, until this sudden pain developed. An operation in the fourth month revealed the body of the pancreas studded with hard nodules, and a broken-down gland was found at the neck of the gall bladder which was drained The pain did not recur after the operation, but the patient succumbed in cachexia six months after the first symptoms. Another patient was a man of 40, previously robust. The patients can find no relief except by sitting bending far forward with the knees drawn up, to relax the abdomen. The resemblance to the gastric crises of tabes is so striking that in one case the cerebrospinal fluid was drawn by lumbar puncture to make certain that the patient was not a tabetic, although the constantly progressive character of the syndrome and the emaciation spoke against tabes. The initial pain on the left side is probably from radiation along the splenic nerves, but as the solar plexus becomes involved the pain assumes its typical median transverse and supraumbilical localization and its deep and excruciating character The syndrome differs completely from that of cancer of the head of the pancreas.

Presse Médicale, Paris.

October 24, XVI, No 86, 681 688

46 *Acute Tuberculosis of Typhoid Type. (La typho bacillose) L Landouzy
47 *Verdict of French Surgical Congress on Treatment of Facial Neuralgia J A Sicard

46 **Tuberculosis Simulating Typhoid.**—Landouzy states that his later experience has confirmed his announcements of twenty years ago in respect to a form of tuberculosis causing a typhoid condition with continuous fever and enlargement of the spleen, but without visceral localizations The fluctuations in the temperature are more irregular than in typhoid, the pulse is not accelerated, and there is no catarrh in throat

and bronchi as is constant in typhoid. The prognosis at the time is much more favorable than in typhoid, but it is far graver as to the future. The transition of the "typhobacillosis" into the pulmonary form with cavities, in the course of ten months of continuous fever, is not unusual.

47. **Treatment of Facial Neuralgia.**—Sicard comments on the increasing tendency to abandon intervention on the Gasserian ganglion for surgery of the roots and, still more, for local injections of alcohol. Destruction of the root at the base of the brain seems to be the only means of preventing recurrence.

Semaine Médicale, Paris.

October, 28, XXVIII, No. 44, pp. 517-528.

48 *Astereognosis and Tactile Asymbolia. (Stéréoagnosie et asymbolie tactile.) F. Rose and M. Egger.

48. **Tactile Localization and Symbolia.**—A number of works on these subjects have appeared lately and Rose and Egger discuss them and report two cases, from Raymond's service, in which there was no sense of tactile localization, both patients having certainly some lesion in the brain. In another case a man of 33 presented typical pure tactile asymbolia. They conclude from their research that there is no case on record of pure primary tactile astereognosis except in infantile hemiplegia. The presence of astereognosis and asymbolia with slight sensory disturbances confirms the assumption of a cortical lesion.

Archiv für klinische Chirurgie, Berlin.

LXXXVII, No. 3, pp. 497-796. Last indexed, Oct. 31, p. 1556.

49 *Further Progress in Treatment of Chronic Cardiospasm. (Therapie des chronischen Cardiospasmus.) G. Gottstein.
50 Stenosis of the Bowel from Submucous Hematoma in a Hemophiliac. (Darmstenose durch submucöse Hämatome bei Hämophilie.) A. v. Khautz.
51 Dissecting Osteochondritis of the Knee. K. Ludloff.
52 *Plastic Resection to Restore Function to Old Amputation Stump. (Verwerthung eines alten Amputationsstumpfes mittelst plastischer Resection nach Vanghetti.) D. de Francesco.
53 *Operative Treatment of Unilateral Pulmonary Tuberculosis by Total Mobilization of Wall of Chest and Release of Lung. (Pleuro-Pneumolysis totalis.) P. L. Friedrich.
54 Restoration of Balance in Regard to Space in Chest After Extirpation of One Lung. (Raumausgleich in der Brusthöhle nach einseitiger Lungenamputation.) Id.
55 Study of Coxa Valga, Especially the So-called Coxa Valga Luxans. J. Kumaris.
56 *Decapsulation of Kidney in Chronic Nephritis. (Nierenentkapse lung bei chronischer Nephritis.) G. Gatti.
57 Experimental Research on Incarceration of Hernias. (Experimentelle Untersuchung über Einklemmung von Brüchen.) C. Ritter.
58 *Treatment of Hydrocephalus in Small Children. W. Kausch.

49. **Treatment of Chronic Cardiospasm.**—Dilatation of the stenosis with an elastic water bag has been improved by Gottstein by making the bag less elastic and giving it the shape of a dumb-bell with a firm silk envelop. His illustrations show how the bag fits into the stenosis and stretches it as water is pumped into the bag. The effect is entirely different from that of the usual soft elastic bag, which bulges out above and below the stenosis without exerting pressure on the latter, except as it is pulled through the constriction. He describes six cases in which this forcible permanent stretching of the cardia by way of the mouth cured the spasmodic contraction. The first patient was a young woman who had suffered for four years from cramp-like pains and regurgitation of food with retention up to 100 c.c. in the esophagus. Transient benefit was obtained by the soft elastic bags, but the trouble constantly recurred until the inelastic "dilatation sound" was used. The cardia was thus stretched to 8, then to 10 and to 11.5 cm., which cured the condition permanently with no recurrence during the two years since. The second patient was a man of 37, and the history, the Roentgen picture and esophagoscopy showed the early stage of chronic cardiospasm with residuum of 10 c.c. Two applications of the "dilatation sound," stretching the stenosis to 11 cm., restored conditions permanently to normal. In the third case the symptoms had been noted for eighteen years and the patient learned to dilate the stenosis himself. In the three other cases the cardio-spasm was accompanied by great enlargement of the esophagus above. Two of these patients were entirely cured and the other was much improved. No mishaps were ever observed with the dilatation sound, and it can be used at the office. In none of the cases related it was deemed necessary to use an anesthetic, but if the stretching should prove very painful he would not hesitate to inject morphin, although the pain is a valuable means of control. The best results were obtained when the stretching was repeated several times at one sitting. He does not attempt to dilate the stenosis by pulling the bag through, but merely by increasing the distention of the strong bag.

52. **Plastic Resection of Old Stump to Restore Function.**—The Journal described, June 15, 1907, page 2079, Vanghetti's method of utilizing the stumps of the tendons and muscles for the functional use of the arm. De Francesco has been applying this technic in a case, five years after amputation, striving to make a "plastic motor" by this technic. The result confirms Vanghetti's assumptions and shows the errors to be avoided in such cases in future. The article is illustrated.

53. **Operative Treatment of Pulmonary Tuberculosis by Total Mobilization of Chest Wall.**—Friedrich thinks that comparatively little benefit results from resection of parts of the ribs. The wall of the chest must have all the bones cut away, without the least injury to the pleura, and this extensive operation he has performed in three cases with very promising results. In this "pleuro-pneumolysis" he resected nine ribs with a total of from 126 cm. to 163.5 cm. of ribs in each of the different cases. When the tuberculous process is forming cavities and is restricted mostly to one side, and the fever keeps up, the process progressing in spite of internal and climatic measures, or when a tendency to healing is evident, he recommends releasing the lung tissue to allow it to shrivel by this extensive mobilization of the chest wall above. The main factors in successful intervention of the kind are skillful anesthetization, the suitable position of the patient and rapidity of operation. The article is illustrated and various points in the technic are emphasized. The principal danger is in the behavior of the heart as it seeks to adapt itself to the new physical conditions in the chest. Friedrich has succeeded in keeping dogs alive after extirpation of one lung without inflammatory changes or development of adhesions between the pleura and pericardium. The large defect left after removal of a whole lung became compensated by displacement of the heart and mediastinum toward the defect, vicarious emphysema of the other lung, rising of the diaphragm and flattening of the ribs—all this without inflammatory cicatricial contracture. Especially remarkable in his dogs was the flattening of the ribs from the atrophy of disuse, thus making the thoracic cavity much smaller.

56. **Decapsulation of the Kidney for Chronic Nephritis.**—Gatti gives the history of this operation and reports its application in the case of a young man with Bright's disease who survived for twenty-eight months after the bilateral decapsulation. The general health showed marked improvement for twenty months so that the patient's earning capacity was restored, but then the old symptoms returned, the intervention not having permanently arrested the disease. A new capsule formed around the kidneys, but of compact fibrous tissue with few and small blood vessels.

58. **Treatment of Hydrocephalus in Small Children.**—Kausch reviews the experiences with 14 cases at Mikulicz's clinic, and discusses the various methods of operative treatment followed, comparing them with the experiences reported by others. The children were between 3 and 48 months old. The results of the surgical treatment were disappointing; transient improvement was observed but rarely, and the children usually succumbed soon after the operation. Complete success was realized only in one case. This patient was a child of 15 months with extreme hydrocephalus and spina bifida treated by a radical operation on the latter, with subcutaneous drainage of the meningeal sac. Kausch has been able to find on record 13 cases of recovery after operative intervention; in 6 cases the ventricle was punctured from one to seven times; in 4 cases lumbar puncture was repeated from three to twenty-five times; 2 of the children recovered under open drainage of the ventricle and his own patient under subcutaneous drainage of the lumbar subdural space. Anti-syphilitic treatment should always be tentatively administered,

both before and after puncture, as it does no harm in any case and may benefit, even in the non-syphilitic cases. Repeated puncture promises well, and he advises *alternate puncture of the ventricle and of the lumbar spinal cavity.* In puncturing the ventricle he would utilize the open spaces in the skull, avoiding the median line, or would puncture through a single drill hole, drawing less than 100 c.c. at a time from the *ventricle and 55* c.c. by lumbar puncture.

Archiv für Verdauungs-Krankheiten, Berlin.

October, XIV, No. 5, pp. 479-627.

59 *Influence of Hydrogen Dioxid on Stomach Secreting Functions. (Einfluss des Wasserstoffsuperoxyds auf die Sekretion des Magens.) A. Petri.
60 *Changes in Chemistry of the Stomach After Gastroenterostomy. (Veränderung des Magenchemismus nach Gastroenterostomie.) L. Schönheim.
61 Occurrence of Dissolved Substances in the Stools with Increased Peristalsis of the Intestines. (Zur Lehre von den Abfuhrmitteln.) H. Ury.
62 *The Lactic Acid Bacillus in the Digestive Tract and Its Relations with Functional Gastric Disturbances. (Vorkommen der sog. "langen Bazillen" im Verdauungstraktus und ihre Beziehung zu den Funktionsstörungen des Magens.) E. Fricker.

59. **Action of Hydrogen Dioxid on Secretion in the Stomach.**—Petri noticed that a 1 per cent. solution of hydrogen dioxid caused increased secretion of saliva when the mouth was rinsed with it, and experiments with it taken into the stomach show *that* it reduces the total acidity, especially the proportion of free hydrochloric acid. Its action in this respect is approximated only by that of oil, which it far surpasses. He gives the details of eleven cases in which it was tested, after establishing its absolute harmlessness on himself and others. The free hydrochloric acid can be reduced to zero, but it is a question whether this is the result of restriction of the secretion of acid or of increased production of mucus. When it is used to reduce the acidity within normal bounds, he advises giving the dioxid like a mineral water, in the morning, fasting, 1 to 3 parts in from 200 to 300 c.c. water. Or it can be used in a 0.25 or 0.5 solution for rinsing the stomach in case of hyperacidity and acid fermentations. The therapeutic use of the dioxid promises to render good service in cases of hyperacidity, hyperchlorhydria, ulcer, spasm of the pylorus, etc. It is possible that it might have a favorable influence also in hemorrhagic conditions, as it has been found useful in this line in epistaxis and uterine hemorrhage.

60. **Changes in Chemistry of the Stomach After Gastroenterostomy.**—Schönheim has examined five patients after gastroenterostomy, the findings confirming in every respect the results of Katzenstein's experimental research in this line. It is evident that the gastroenterostomy not only puts an end to the motor disturbances, but it also improves the conditions in regard to secretion and the chemistry of the stomach. His findings indicate that the operation should be considered in cases of obstinate hyperchlorhydria, even without stenosis of the pylorus and ulcer. In nearly every case after gastroenterostomy there is regurgitation of bile and pancreatic juice into the stomach. They appear even in half an hour when the food contains much fat. The alkaline intestinal juice reduces the acidity of the gastric juice by a chemical reaction, *while the pepsin* becomes inactive in the alkaline medium, but the trypsin remains active even in a weakly alkaline medium. It is possible to eliminate the hydrochloric acid entirely and thus to promote the healing of a gastric ulcer. This can be accomplished by frequent meals, much fat in the food, and copious ingestion of water. Although gastroenterostomy thus responds to the indications for causal therapy of gastric ulcer, yet internal treatment should be tried long and carefully, and only when the gastric ulcer shows no *tendency* to heal should *operative* treatment be advised.

62. **Lactic Acid Bacilli in Digestive Tract.**—Fricker has found lactic acid bacilli in the mouth, esophagus and intestines, as well as in the stomach. In *examination* of 148 patients with normal or increased acidity and normal or reduced motility, a few lactic acid bacilli were found, but the granulose reaction could only rarely be obtained, *and* tests for lactic *acid* were always negative. The findings were approximately the same in 31 cases of much-reduced acidity but normal motility. In 15 cases of carcinoma of the stomach with entire absence of free hydrochloric acid, lactic acid bacilli were found constantly, giving the granulose reaction, and lactic acid was also present in large amounts. Under normal conditions the stomach empties itself of fluid and solid content, including the saprophytic micro-organisms. Contrary to the other saprophytes, the lactic acid bacilli are unable to proliferate, even when there is *stagnation of stomach content,* unless there is disturbance in the production of hydrochloric acid. The discovery of large numbers of lactic acid bacilli, therefore, justifies the *assumption of reduced production* of hydrochloric acid and reduced motility; these conditions are encountered with cancer, but also with some other stomach disturbances, consequently *these bacilli have no pathognomonic significance.* It is much easier to detect these bacilli than to obtain the chemical lactic acid reaction, as the scrap of stomach content in the eye of the *sound will suffice for microscopic examination.* In four cases described in detail, the bacilli vanished after pylorectomy for incipient cancer, although the chemical functions remained *unchanged. As there was no ulceration* of the cancer, the Weber blood test and the Salomon albumin serum test *gave* negative *findings.* In another case the positive bacteriologic *findings* were *explained* by discovery of numerous lactic acid bacilli between the carious teeth. The stomach findings in this case were normal, the cancer being at the *sigmoid flexure. This case shows that when lactic* acid bacilli are found in the stomach content and the chemistry of the stomach is normal, the bacilli originate at some point above in the alimentary canal.

Beiträge zur Klinik der Tuberkulose, Würzburg.

X, No. 4, pp. 293-399. Last indexed, October 31, p. 1557.

63 Tuberculol and Béraneck's Tuberculin. G. Landmann. Id. H. Sahli. Id. E. Béraneck.
64 *Influence of Pleuritic Effusions on Course of Pulmonary Tuberculosis. (Einfluss pleuritischer Exsudate auf den Verlauf der Lungentuberkulose.) R. Konzelmann.

64. **Influence of Pleural Effusion on Pulmonary Tuberculosis.**—Konzelmann is able to add 8 more cases to those on record in which a tuberculous process in the lungs healed under the influence of a pleural effusion. In 26 cases a favorable influence from the effusion was marked in 16; 3 of these patients were in a group of 9 cases of advanced bilateral processes. The influence of the compression from the effusion was evident in the subsidence of fever, reduction of expectoration and improvement in the general health. In all but 2 of the 16 cases showing a favorable influence the patients' earning capacity was fully restored and has remained thus to date, in 8 cases during an interval of from one to *nearly* eight years. All these patients belonged to *the working classes and* the conditions were not *hygienically* favorable. One of them is a driller of holes in a locomotive *factory,* another is an iron cutter. The influence from the *effusion* is *generally unmistakable,* although the effusion was absorbed in two or three months at longest, with the exception of one case. Even after the disappearance of the *effusion,* respiration in the lung evidently proceeded less vigorously, and thus the lung was given comparative rest. The 26 cases are described in detail; the results *encourage* treatment of certain cases of pulmonary processes by artificially inducing a pneumothorax. The communication issues from a Zurich sanatorium, in *charge of* Staub.

Beiträge zur klinischen Chirurgie, Tübingen.

LIX, Supplement, pp. 1-220.

65 *Report of Heidelberg Surgical Clinic for 1907. A. Narath.

65. **Progress in Surgery.**—Narath reviews the work of the surgical *clinic* last year and expatiates on the progress realized by the more extensive use of local anesthesia. A 1 per cent. solution of novocain, with addition of a *little suprarenal* preparation, is used for the local anesthesia, and this allows a constantly increasing proportion of operations to be done without admission to the hospital. He says *that* any one who has had experience on his own body of the faultless action of the novocain-suprarenal anesthesia is sure to become its enthusiastic advocate and to regard *it* as *malpractice* thereafter when general or spinal anesthesia is used in cases for which local anesthesia would have sufficed. The *ether-drop*

method is given the preference for general anesthesia, usually preceded by small doses of morphin and scopolamin. The latter were also found useful as a preliminary to local and spinal anesthesia.

Berliner klinische Wochenschrift.

October 26, XLV, No. 43, pp. 1917-1960.

66 *Fixation of Complement in Serum Test in Inherited Syphilis, Scarlet Fever and Other Infectious Diseases. (Komplementbindung bei Syphilis hereditaria. Scharlach und anderen Infektionskrankheiten.) L. Halberstaedter, E. Müller and A. Reiche.
67 Coincidence of Congenital and Acquired Cardiac Defects. (Zusammentreffen angeborener und erworbener Herzfehler.) A. Dietrich.
68 *Blood Pressure and Its Measurement in Chronic Nephritis. (Blutdruck und Blutdruckmessung bei chronischer Nephritis). H. Engel.
69 "Insufficiency of the Spine" and Scoliosis. (Insufficientia vertebræ und Skoliose.) A. Schanz.

66. Complement-Binding Test in Various Infectious Diseases.—The Wassermann technic was applied in 9 cases of measles. 5 of varicella and 14 of pertussis—all in infants—with invariably negative results. In 10 cases of scarlet fever the reaction was positive in 5. The positive findings were obtained only during a certain period in the scarlet fever, and only with certain extracts which seemed to possess the power to bind the complement in the serum of scarlet-fever patients as well as syphilitic serum. In 27 cases of manifest inherited syphilis, 25 of the infants gave a positive response. The reaction was constantly negative in 10 infants free from any sign of syphilis, while it was positive in 30 out of 68 cases suspicious of syphilis, including the 25 infants with manifest syphilis. In 4 other cases the infants had previously showed signs of syphilis which had subsided under treatment. The infants examined were in an orphan asylum and thus under constant observation for a long time.

68. Measurement of the Blood Pressure in Chronic Nephritis.—Engel pleads for the more general use of the tonometer as sufficiently accurate for general practice, while it affords most useful information for diagnosis and prognosis, and is a guide for effectual treatment. Uremic disturbances are frequently revealed by a sudden rise in blood pressure before they become evident in any other way. In nephritis with the parenchyma mostly involved a rapidly rising blood pressure, without signs of uremia, warns that the heart is failing. As the heart action is improved, the blood pressure drops. The former assumption that chronic parenchymatous kidney lesions are accompanied by nephritic hypertension is erroneous, the result of confusing it with cardial hypertension. In case of contracted kidney, a sudden pronounced drop in the high blood pressure indicates the giving out of the heart. He thinks it probable that every interstitial nephritis is nothing more than a localized arteriosclerosis in the kidney. Arteriosclerosis in time always leads to nephritis; in distinction from this secondary arteriosclerotic nephritis. true contracted kidney can be regarded as a primary arteriosclerotic nephritis, and high systolic blood pressure is an essential symptom of contracted kidney.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena.

Oct. 22, XI, No. 19, pp. 721-768. Last indexed, Sept. 12, p. 954.

70 Paget's Disease of the Bones. (Die Paget' sche Knochenerkrankung.) K. H. Schirmer. Collective review of the literature. Commenced in No. 15.

Deutsche medizinische Wochenschrift, Berlin.

October 22, XXXIV, No. 43, pp. 1833-1880.

71 *Recent Progress in [illegible] (Neuere Forschungen auf dem [illegible] menthal.
72 *Functional Diagnosis [illegible] rt Affections. (Herzkrankheiten.) [illegible] in No. 42.
73 *Indications for Chondrotomy with Apical Tuberculous Processes. (Indikationen zur Chondrotomie bei Lungenspitzentuberkulose.) P. Harrass.
74 Trypanosome Toxin and Resulting Parenchymatous Keratitis. A. Leber.
75 *Cystoscopy and Catheterization of Ureters in Children. (Cystoskopie und Ureterenkatheterismus in der Kinderpraxis.) E. Portner.
76 *Tumors in Bladder in Children. (Kindliche Blasentumoren.) Rumpel.

71. Recent Progress in Knowledge of Etiology of Diabetes.—Blumenthal comments on the discovery of the substances in the pancreas which activate the destruction of sugar by the ferments, and regards the lack of these substances as the primal cause of diabetes, although the final demonstration of this has not yet been given. The nervous system can also be regarded as participating in the etiology of diabetes as the central organ regulating all the metabolic processes. The muscles can also be regarded as a diabetogenetic organ, as the oxidation of sugar takes place principally in the muscles. If the functional capacity of the muscle for oxidation of sugar suffers for any reason, hyperglycemia and glycosuria are the inevitable result. Sugar is formed in the diabetic from the carbohydrates and from the albumin, and the amino acids are an important source for the production of sugar from albumin. The formation of sugar from fat has not been proved or disproved to date, but the production of acetone from albumin is now an established fact. As the albumin bodies are destroyed, carbohydrates are produced, which thus provide material that powerfully promotes the oxidation of acetone in the body.

72. Functional Diagnosis and Treatment of Heart Affections.—Strubell has been making a special study of the elasticity of the vessels to determine whether increased resistance offered by the peripheral vessels is of a transient, vasomotor nature or permanent from angiosclerotic changes. The warm bath is often valuable for deciding this question, as also for treatment. In case of pronounced arteriosclerosis, a warm bath of an hour's length will relieve the heart of a fifth to a third of its work during this hour, which is a great relief for the overburdened organ. The success of the warm bath in severe angiosclerosis has been actually startling in his experience, he says, adding that the physician who makes a systematic study of the blood pressure in his cases of angiosclerosis, is able to diagnose the condition from ten to twenty years earlier than physicians who neglect this important aid for early diagnosis. His arteriosclerotic patients are thus much younger than those of the older school, and he does not fear rupture of a vessel in the brain at this early stage from these warm baths. especially as he follows the warm—not hot—baths with a very hot foot bath to ensure diversion of the blood from the head. The delay and incompleteness of the drop in the blood pressure in the bath form the index for the capacity of dilatation of the blood vessels. Another important means of obtaining information in regard to the heart is afforded by determination of the ability of the heart to respond to nerve stimuli. For this purpose a weak alternating electric current is passed through the patient's body as he sits with dilated blood vessels in the warm bath, the entire surface of his body serving as the electrode. The electric current induces contraction of the vessels, and this is followed by an improvement or insufficiency in the heart action according as it is capable of normal functioning or not. With the normal heart the blood pressure rises, while the auricular pressure subsides. but with a pathologic heart the reverse is observed, the blood pressure drops while the auricular pressure rises. The test is similar to Basch's irritation of the exposed sciatic nerve in the dog, and gives important differential information. although it must be managed with great caution. The Roentgen rays show functional and anatomic changes in the heart before they are perceptible by percussion. The more we learn in regard to the heart. the more complex its functions are seen to be. We can already enumerate twenty-four kinds of influences, exclusive of the nerves. He regards as a great progress the graphic registration of the electric phenomena which accompany the contractions of the heart muscle, especially when recorded with the string galvanometer. He gives a number of tracings of these electrocardiograms, comparing the normal with various pathologic findings. They reveal at a glance the existence of neurasthenia and other characteristic abnormal findings. and allow an oversight of the heart functioning never previously attained.

73. Chondrotomy for Apical Tuberculosis.—Harrass warns that the severing of the ossified costal cartilage to mobilize the wall over an apical process has little prospect of successful outcome if the rigid cartilage is accompanied by a primary malformation of the first ribs showing that the trouble is the result of defective development in the first place. If there is much scoliotic asymmetry of the opening of the thorax the chondrotomy is not of the slightest use. If done under these conditions it merely throws discredit on Freund's operation for relief of an incipient apical process. It is indicated when central or peripheral ossification of the cartilage is observed with an incipient apical tuberculous process, or when the cartilage is primarily abnormally short and systematic exercises in deep breathing fail to improve the defective function. In every case it is important to determine with the Roentgen rays the exact conditions in the opening of the thorax, and in future the published reports should be accompanied by the skiagram of the opening.

75. **Cystoscopy and Catheterization of the Ureters in Children.**—Portner advises restricting these measures to the cases in which they are really indispensable, not resorting to them when there is no pathologic sediment in the urine, no matter how pronounced the bladder or kidney disturbances, nor in cases in which hematuria is accompanied by tube casts or by hemorrhages elsewhere, *showing that it is merely one manifestation of a hemorrhagic diathesis or a nephritis.* They are also contraindicated in cases of pyuria in which progressive improvement is observed under treatment. If the diagnosis is still wavering after four weeks in cases of hematuria and pyuria, then it should be made certain by cystoscopy or catheterization of the ureters as needed. They are both applicable for girls after they are a year old, and cystoscopy for boys after the second year. Catheterization of the ureters is scarcely possible for boys under the age of 8. The cystoscopic examination is free from danger, but requires general anesthesia; the bladder reflex persists even longer than the corneal reflex. The catheterization of the ureters should be supplemented by the usual functional tests of the kidneys, as for adults. He describes nine cases to show the benefits of these measures in dubious cases in children. His little patients were from 2 to 13 years old. The youngest patient was a boy with a large stone in the neck of the bladder. The cystoscope was introduced readily after slitting the external orifice. On the whole, he states, children display an extraordinary tolerance on the part of the urethra and bladder to instrumental intervention. Reports from various lands emphasize the rapid and prompt recovery of children after operations for removal of stones. This tolerance is in marked contrast to the slight resistance offered by children to certain other operative measures.

76. **Tumor in Child's Bladder.**—Rumpel reports the removal of a conglomerate of myxofibromas from the bladder of a boy of 3. There is no hemorrhage with these tumors, as the mucosa is not involved. Retention of urine is the main symptom.

Jahrbuch für Kinderheilkunde, Berlin.

October, LXVIII, No. 4, pp. 391-520.

77 Bacteriologic Research on Measles. (Aetiologie und Pathogenese der Masern.) D. Pacchioni and C. Francioni.
78 *Anemia in Young Children. (Anämie im frühen Kindesalter.) H. Scheible.
79 Experiences with Intubation for Diphtheric Laryngeal Stenosis. F. Lotsch.
80 *Brain Findings in Infants with Inherited Syphilis. (Grosshirnbefunde bei hereditär-syphilitischen Säuglingen.) B. Weyl.
81 Physiology of Growth and Development of Child's Organism. (Zur Physiologie des Wachstums und der Entwicklung des kindlichen Organismus.) A. O. Karnitzky.

78. **Anemia in Young Children.**—Scheible reports a case of probable hemophilia in a child of 2. The anemia from the repeated losses of blood was combated by injection of from 10 to 18 c.c. of defibrinated blood from healthy adults. The improvement under these injections was pronounced and striking, and the restoration of normal conditions in the blood was accompanied by improvement in the general health. Five of these injections were made in the course of six weeks. It is useless to attempt this transfusion of blood, he says, when the blood-producing apparatus is irreparably injured. It should not be done as a last resort, but should be tried as early as possible when anemia in children is assuming a grave form. The injections were made under the skin of the thigh. Some substance in the serum evidently acts as a stimulus for the blood-producing organs.

80. **Brain Findings in Children with Inherited Syphilis.**—During the last two years Weyl has examined the brains of six children with inherited syphilis who lived from two weeks to five months. There were no clinical symptoms of brain trouble, except in one case, but in every one the pia was found abnormal at different points, with thickening or infiltration. In five cases large numbers of typical lymphocytes were found in the pia. In the case with the most lymphocytes there were no signs of bronchitis. In all the children the morbid changes in the pia showed numbers of large round cells; in three cases the brain below was also affected.

Medizinische Klinik, Berlin.

October 18, IV, No. 42, pp. 1595-1632.

82 *Cutaneous Tuberculin Reaction in Nurslings. (Kutane Tuberkulinreaktion bei Säuglingen.) Ellenbeck.
83 *Symposium on Pernicious Anemia.
84 *Tetany with Autopsy Findings. H. Berger.
85 Improved Credé Technic for Prevention of Ophthalmia Neonatorum. (Resultate mit meinem neuen Verfahren der Credéisierung der Neugeborenen.) H. Hellendall.
86 Negative *Experimental Research on Duodenal Glycosuria.* A. Visentini.

82. **Cutaneous Reaction to Tuberculin in Infants.**—Ellenbeck applied v. Pirquet's test to 232 infants and obtained a positive response in only 5, 3 of whom died later, and the presence of tuberculous lesions was confirmed by autopsy; 2 are still alive, but with unmistakable tuberculous processes. Tuberculosis was discovered also in some of the 20 infants who died after a negative reaction, but the tuberculosis in these cases was in the advanced stage in which the reaction is inevitably negative. He commends the cutaneous reaction as harmless, simple and reliable, proving sometimes the first sign of latent tuberculosis. Negative findings are conclusive only when the test has been repeated several times at two-week intervals.

83. **Pernicious Anemia.**—Continuing this symposium, v Jaksch states that the similarity of pernicious anemia to kala-azar suggests a protozoon infection. He adds that treatment by the Roentgen rays or high-frequency current may possibly yet prove effectual; drugs hitherto have had little influence. Grawitz reaffirms his idea of intestinal intoxication as the cause of pernicious anemia in the majority of cases. The prospects of a cure in this form under dietetic and medicinal measures are very good. Schultze states that Fowler's solution has given long-continued improvement in some cases in his experience. In one case an improvement bordering on a complete cure was obtained with Levico water. This patient was an elderly man.

84. **Tetany with Autopsy Findings.**—Berger's patient was a woman of 29 who had had recurring articular rheumatism before puberty at 17. At 18 a large goiter was operated on; it required operation again eleven years later, and tetany followed, constantly increasing in intensity, the attacks being accompanied by loss of consciousness. The emaciated patient succumbed in a few weeks to a mild intercurrent diphtheria. The autopsy findings showed the characteristic changes in the nervous system, degeneration of the cells of the anterior horns, etc.

Münchener medizinische Wochenschrift.

October 20, LV, No. 42, pp. 2169-2216.

87 *Tuberculin Immunity. F. Hamburger.
88 *Marmorek's Serum in Surgical Tuberculosis. M. Strauss.
89 Origin and Treatment of Enterocele. (Entstehungsgeschichte und Behandlung der Eingeweidebrüche.) W. Koch.
90 *Serum Therapy of Epidemic Cerebrospinal Meningitis. O. Orth.
91 *Giant Scalp Tumor. (Zur Kasuistik der Schädeldeckentumoren.) H. *Klostermann.*
92 Bacteriologic Technic. E. Schottelius.
93 Rapid Surgical Roentgen Photography. L. Gilmer.
94 *Some Unusual Cases of Syringomyelia and Dystrophy. (Klinische Kasuistik aus der Praxis.) W. Erb.

87. **Immunity to Tuberculin.**—Hamburger states that the artificially acquired immunity to large doses of tuberculin is in many cases merely the result of inability to react on account of the saturation with antibodies. He describes two convincing tests, one in a babe of twelve months with autopsy findings. The individual seems to be rendered immune, when in reality the lack of response is merely an inability to react.

88 **Serum Treatment of Surgical Tuberculosis.**—Strauss has tried the Marmorek serum in 37 cases of various tuberculous processes in the bones, glands or bladder. He found it harmless and his general impression was favorable on the whole for its use in surgical tuberculosis.

90 **Serum Treatment of Meningitis.**—Orth has used a polyvalent serum in two cases of epidemic cerebrospinal meningitis, and gives tracings showing benefit from its administration. The injections were followed by an interval of general improvement during which the organism could reassemble its defenses. No complications have been observed in these cases during the fifteen months since.

91 **Giant Tumor of the Scalp.**—Klostermann reports the successful removal of a fibrosarcoma from the right side of the head. The growth measured 9x12x20 inches in circumference. It had evidently started as a cavernous angioma but had become malignant after the menopause.

94 **Dystrophy and Syringomyelia.**—Erb gives the details of about half a dozen cases of these affections differing in several respects from the classic types. In one case the progressive muscular dystrophy was confined to the legs and the affection had been erroneously differentiated by a number of prominent physicians, some ascribing the trouble to neurasthenia or tabes or compression of the spinal cord. The patient was a banker of 37. Erb in describing this case reiterates that only careful study of the history will protect the physician against serious error in these obscure cases. In another case the dystrophy was localized in the muscles in the back of the neck. Although of the juvenile form, the affection in this case commenced at the age of 50. In all his experience he had never witnessed a case of recovery from progressive muscular dystrophy and did not believe in its possibility until convinced of the contrary by a case in a girl of 7, and Marina has recently reported a similar case. In Erb's case the child presented a typical dystrophy of the juvenile form. The parents and brothers of the little patient are healthy. Systematic treatment was instituted and kept up for a long time, the galvanic current to the spinal cord in the neck with galvanofaradization of the muscles, gentle massage and exercise, iron, arsenic and cod liver oil, brine baths and fresh air, and the results were surprisingly good. In three years the child was entirely healthy and well grown with only a few traces of the former dystrophy. The last muscle to show traces of dystrophy, the deltoid, had developed normally, especially under the influence of swimming, and the child is now, six years later, practically cured.

Virchows Archiv, Berlin.

October, CXCIV, No. 1, pp. 1-176

95 Interstitial Cells in the Testicles. (Zwischenzellen des Hodens.) K. Kasai.
96 Hypernephroma in Vulva as Only Metastasis of Malignant Hypernephroma. (Eine Nebennierengeschwulst der Vulva als einzige Metastase eines malignen Nebennierentumors der linken Seite.) E. Gräfenberg.
97 Secretory Functioning of Stomach Glands Under Abnormal Conditions of Innervation and Duct Arrangement. (Die sekretorische Funktion der Magendrüsen unter abnormen Bedingungen der Innervation und Kanalisation des Organs.) G. Di Cristina.
98 Peculiar Cells in the Tonsil of a Dog and Their Probable Significance. (Einige eigenartige Zellen in der Gaumentonsille eines Hundes.) G. Alagna.
99 Rudimentary Segments of Lung in Cattle. (Ueber rudimentäre Lungenabschnitte beim Rinde.) A. Glur.
100 *Experimental Hyperemic Treatment of Streptococcus Infection in Rabbit's Ear. (Experimente über Biersche Stauung bei Streptokokkeninfektion am Kaninchenohr.) C. Walther.
101 Action of Adrenalin Injected Subcutaneously. (Wirkung subkutan einverleibten Adrenalins.) F. Johannes.
102 Psammoma-like Growths in Wall of a Meningocele. (Psammomähnliche Bildungen in der Wand einer Meningocele.) P. Prym.
103 *Case of Fibroelastomyxoma of the Heart and Casuistic Study of Tumors of the Heart, Especially Myxomas. (Fall von Fibroelastomyxom des Herzens.) Karrenstein.
104 *Pathology and Anatomy of Scorbutus. T. Sato.

100 **Experimental Hyperemic Treatment.**—Walther reports extensive experimental research with Bier's constricting hyperemia applied to rabbits' ears. The results can not be considered as favorable and his review of the literature has shown that streptococcus phlegmons are unusually resistant to this form of treatment. He took the streptococci from puerperal processes.

103 **Tumors of the Heart.**—Karrenstein has collected from the literature 39 cases of tumor of the heart exclusive of myxomas, and 38 of the latter. The details of the various cases are given and a case of myxoma personally observed is reported in detail. His patient was a man of 56 and the myxoma was located in the left auricle. None of the cases on record allowed a clinical diagnosis during life. The myxomas were found in the left heart in 27 of the 38 cases. The secondary tumors were much more frequent in the right heart, but other primary tumors occur in about equal numbers left and right. These heart tumors have been discovered at all ages. The myxomas were located on the tricuspid valve in 29 per cent. of the cases, but other forms of tumors only in 7.7 per cent.

104 **Scorbutus.**—When Port Arthur capitulated in 1905, the Russian sick and wounded numbered about 17,000, and more than half of these suffered from scorbutus. On account of this remarkable opportunity for research on scorbutus, a commission of five physicians was appointed by the Japanese to study this disease and Sato and Nambu here publish the official report of the commission. It includes an account of experimental research.

Wiener klinische Wochenschrift

October 15, XXI, No. 42, pp. 1435-1470

105 Hemoglobinuria and Hemolysis. W. Czerniecki.
106 *Lancinating Pains in Head in Tabes. (Lanzinierende Schmerzen im Bereiche des Kopfes bei Tabes dorsalis.) A. Lang.
107 Checking of Phagocytosis in Reagent Glass by Culture Filtrates. (Behinderung der Reagenzglasphagozytose durch Kulturfiltrate.) S. O. Schöbl.
108 Research on Chicory. (Physiologische Versuche mit der Zichorie.) J. Zwintz.
109 Special Training for Social Medicine. (Die soziale Medizin als besonderer Unterrichtsgegenstand.) M. Steinberg.

October 22, No. 43, pp. 1471-1506

110 *Address at Dedication of New Gynecologic Clinics at Vienna. (Bau, Einrichtung und Ziele der neuen Frauenkliniken.) F. Schauta. Id. A. v. Rosthorn.
111 Fifty Years of Gynecology at Vienna. (Fünfzig Jahre gynäkologische Klinik.) J. Fischer.
112 *Long Freedom from Recurrence After Incomplete Operation for Uterine Cancer. (Unerwartete Rezidivfreiheit nach unvollständiger Operation des Gebärmutterkrebses.) K. Fleischmann.

106 **Lancinating Pains in Head in Tabes.**—Lang calls attention to the pains resembling neuralgia which are liable to be encountered in incipient tabes. The pains follow the usual routes of neuralgia, but the nerve trunks are very little, if at all, sensitive to pressure, while severe sensory disturbances are generally evident. Another feature of this pseudoneuralgia is that the trigeminal and occipital nerves are generally affected simultaneously or alternately, which is rare in true neuralgia. Another means of differentiation is the inefficacy of ordinary treatment for neuralgia. His first patient was a woman of 46, who, nine years before had suffered for weeks from intense left headache. After an interval of some years the headache returned in the left side and the trigeminal nerve was resected, as no improvement was observed the Gasserian ganglion was taken out. The agonizing headache still continued in paroxysmal exacerbations, but pressure on the nerve trunk was nowhere painful, notwithstanding the intense pain in the trigeminal and occipital domain. Hypalgesia in the thorax and anomalous reflexes confirmed the final diagnosis of tabes. He describes further seven more cases, out of a much larger experience, all with these lancinating pains in the head as the first sign of tabes.

110 **Gynecology at Vienna.**—Schauta's address is accompanied by an interesting chart showing the mortality of the Maternity for the hundred years ending 1884. The curve shows the increasing mortality with the increasing anatomic tendency of medicine in the eighteenth century, especially when the material was used for teaching purposes. Then came Semmelweis and the curve drops from its highest point nearly to its lowest, then the level drops lower still with Lister, and reaches its minimum with the construction of a new building in 1873. Rosthorn devoted most of his address to the clinical consideration of pain as a symptom. The parts of the sexual system covered with peritoneum are devoid of sensibility to pressure, warmth, cold and pain and are refractory to stimuli, chemical, thermic and electri

—all this justifying the conclusion that in these parts it is innervated by the sympathetic alone. The uterus can frequently be extirpated without any anesthetic, with scarcely the slightest pain. Only considerable traction on the ligaments and severing the masses of connective tissue around the cervix, above the roof of the vagina, induce pain. The ovaries and tubes also can be cut and cauterized without the patient feeling pain. She notices the manipulations only when the pedicle of the ovary is pulled or ligated. Plastic operations on the vagina do not require even local anesthesia, if the orifice and the perineum are not involved. The sacral pain accompanying most gynecologic affections is undoubtedly a radiated pain, possibly explainable by Head's projection, but it occurs also in neurasthenics and hysterical patients free from gynecologic changes. It may also accompany displacement. It is important, he added, to classify the pain, and sometimes several days' observation are required for this, to study the factors which elicit the pain, intensify or attenuate it. Pain, he declares, confronts us in many forms like an all-conquering demon, and yet it is the friend of the sufferer, the watchdog of health. It compels the sufferer to seek help, and is thus the physician's most loyal ally.

112. **Freedom from Recurrence After Palliative Operation on Uterine Cancer.**—Fleischmann's first patient was a woman of 35 who is in good health eleven years after vaginal extirpation of the carcinomatous uterus, leaving a large part of the intestine involved in the growth. In two other cases the patients are still in good health ten and eight years after a similar incomplete vaginal operation. These cases confirm the view that it is possible for the organism to destroy or keep in a latent state a certain amount of cancer germs left behind.

Gazzetta degli Ospedali e delle Cliniche, Milan.

October 11, XXIX, No. 122, pp. 1289-1304.

113 Inoculability of Bacillus of Soft Chancre in Rabbit's Cornea. (Inoculabilita dei bacillo di Ducrey nella cornea del coniglio.) A. Fontana.
114 Present Status of Treatment of Diphtheria, with Special Regard to Mechanism of Action of Antiserum. (Lo stato attuale delle terapia della forme crouposo-difteriche delle vie aeree.) M. Fasano.
115 Malta Fever and Syphilitic Liver Lesions. (Febbre mediterranea e sifilide epatica.) S. Lavagna.
116 Symmetrical Gangrene of the Legs in Infectious Diseases. (Gangrena simmetrica delle estremita nel decorso di malattie infettive.) G. Tomaselli.
117 Epidemic Pneumonia. (Polmonite epidemica.) T. Oreste.
118 Symptomatology and Diagnosis of Hydatidiform Mole. (Mola vescicolare.) G. Manara.

October 18, No. 125, pp. 1321-1336.

119 Study of Paget's Disease. One Case. (Carcinoma della mammella.) G. Volterrani.
120 *Experimental Study of Effects of Prolonged Use of Small Doses of Quinin. (Contributo alla profilassi della malaria.) A. Graziani.
121 Primary Sarcomas in the Muscles. (Considerazioni cliniche ed istologiche sui sarcomi muscolari primitivi.) P. Desteffani.
122 *Paroxysmal Tachycardia. A. De Blasi.

120. **Experimental Study of Quinin Prophylaxis.**—Graziani made a daily subcutaneous injection of quinin in rabbits and guinea-pigs in doses proportional to their weight corresponding to the dosage for quinin prophylaxis of malaria. The injections were kept up until the animals were fully grown, that is, for three months, and in adult animals for the same length of time. The quinin evidently checked the growth a little and rendered the animals less resistant to infections, but did not seem to alter the composition of the blood.

122. **Paroxysmal Tachycardia.**—One of De Blasi's two patients was a physician, and in both the attacks of heart disturbance were separated by intervals of complete health. The heart muscle seemed to be absolutely intact under the most careful examination. The neurosis is apparently the result of chronic gastrointestinal disturbances. The attacks are sometimes brought on by stooping to pick up something, and are arrested by reclining or by an ice bag to the heart, inhalation of amyl nitrite or injection of morphin. Holding the breath also helps.

Policlinico, Rome.

October 18, XV, Practical Section, No. 42, pp. 1317-1348.

123 Edinger's Theory of the Using-up of the Nerve Cells. (Teoria del consumo intorno alla genesi delle malattie del sistema nervoso.) V. Forli.

October 25, No. 43, pp. 1349-1380.

124 Magnesium Plates as Aid in Suturing Liver. (Nuovo processo di emostasi epatica con sostegni intraepatici di magnesio.) R. Caminiti.

October, Surgical Section, No. 10, pp. 425-472.

125 Chondroendothelioma of the Head. (Condro-endotelioma del capo.) A. Pennisi.

October, Medical Section, No. 10, pp. 433-476.

126 Apparatus for Automatic Registration of Foot Clonus. Persistence of Latter During Sleep. (Apparecchio per la registrazione automatica del clono del piede.) E. Levi.
127 Relations Between Human and Bovine Tuberculosis. (Le ricerche della Commissione inglese sulla tubercolosi e la questione del rapporto della tubercolosi dell 'uomo con quella dei bovini.) M. Jatta.
128 Cancer and Cirrhosis of the Liver with Neoplastic Infection of Nerves and Arteries. (Cancro cirrosi del fegato con infiltrazione neoplastica dei nervi e delle arterie.) A. Conti. Commenced in No. 9.

Ugeskrift for Læger, Copenhagen.

October 1, LXX, No. 40, pp. 1135-1156.

129 Diphtheria Epidemic at Sorø, 1908, and Serum Prophylaxis. H. Kaarsberg.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

Therapeutics of the Circulation. Eight Lectures Delivered in the Spring of 1905 in the *Physiologic Laboratory of the University of London.* By Lauder Brunton, Kt., M.D., D.Sc., LL.D. (Edin.), LL.D. (Aberd.), F.R.C.P., F.R.S., Consulting Physician to St. Bartholomew's Hospital. Cloth. Pp. 280, with illustrations. Price, $1.50. Philadelphia: P. Blakiston's Son & Co., 1908.

Ticks, A Monograph of the Ixodoidea. By George H. F. Nuttall, M.A., M.D., Ph.D., Sc.D., F.R.S., Quick Professor of Biology in University of Cambridge. Cecil Warburton, M.A., F.Z.S., Zoologist to Royal Agricultural Society. W. F. Cooper, B.A., F.Z.S., F.L.S., and L. E. Robinson, A.R.C.Sc. (Lond.). Paper. Pp. 104, with illustrations. Price, $1.25. Cambridge: University Press, 1908.

Medical Inspection of Schools By Luther Halsey Gulick, M.D., Director of Physical Training, New York Public Schools, and Leonard P. Ayres, General Superintendent of Schools of Porto Rico, 1906-1908. Cloth. Pp. 276. Price, $1.00. New York: Charities Publication Committee (Russell Sage Foundation), 1908.

Arteriosclerosis. By Louis M. Warfield, A.B., M.D., Instructor in Medicine, Washington University Medical Department. Introduction by W. S. Thayer, M.D., Professor of Clinical Medicine, Johns Hopkins University. Cloth. Pp. 165, with illustrations. Price, $2.00. St. Louis: G. V. Mosby Medical Book Co., 1908.

A Manual of Bacteriology. By R. Tanner Hewlett, M.D., F.R.C.P., D.P.H. (Lond.), Professor of General Pathology and Bacteriology, King's College, London. *Third Edition.* Cloth. Pp. 638, with illustrations. Price, $4.20. Philadelphia: P. Blakiston's Son & Co., 1908.

Lehrbuch Interner Medizin. Von William Osler, Königlicher Professor der Medizin an der Universität Oxford. Uebersetzt von Edmund Hoke, I. Assistent der *medizinischen Universitätsklinik in* Prag. Paper. Pp. 879. Price, $3.00. Berlin: Urban & Schwarzenberg, 1909.

Index of Legislation 1907. Education Department Bulletin, New York State Library, Legislation 36. Edited by Frederick D. Bramhall, Legislative Reference *Librarian.* No. 435. Paper. Pp. 599. Albany: University of the State of New York, 1908.

Gonorrhea in Women. By Palmer Findley, M.D., Professor of Gynecology in College of Medicine of University of Nebraska, Omaha. Cloth. Pp. 112. Price, $2.00. St. Louis: C. V. Mosby Medical Book Co., 1908.

A Handbook of Suggestive Therapeutics, Applied Hypnotism, Psychic Science. By Henry S. Munro, M.D., Americus, Ga. Second Edition. Cloth. Pp. 360. Price, $3.00. St. Louis: C. V. Mosby, 1908.

Pocket Dose Book. Compiled by John Edwin Rhodes, A.M., M.D., Associate Professor of Diseases of the Chest, Rush Medical College. Cloth. Price, $0.25. Chicago: Sharp & Smith, 1908.

The Art of Natural Sleep. By Lyman P. Powell, Rector of St. John's Church, Northampton, Mass. Cloth. Pp. 92. Price, $0.90. New York: G. P. Putnam's Sons, 1908.

Report on Department of School Hygiene, Boston Public Schools. By Thomas F. Harrington, M.D., Director. Paper. Pp. 81. Boston: Municipal Printing Office, 1908.

Practical Points in Anesthesia. By Frederick-Emil Neef, B.S., B.L., M.L., M.D., New York City. Cloth. *Pp. 46. Price,* $0.60. New York: Surgery Pub. Co., 1908.

Handbuch der Biochemie des Menschen und der Tiere. Von Carl Oppenheimer, Ph.D., M.D. Paper. Pp. 306. Price, $1.25. Jena: Verlag von Gustav Fischer, 1908.

Applied Physiology. By Robert Hutchison, M.D., F.R.C.P., Physician to London Hospital. Cloth. Pp. 298. Price, $1.50. New York: Longmans, Green & Co., 1908.

Report of the Surgeon-General U. S. Army to the Secretary of War, 1908. Paper. Pp. 179. Washington: Government Printing Office, 1908.

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Original Articles

THE TREATMENT OF LOCOMOTOR ATAXIA.

ALLAN McLANE HAMILTON, M.D., F.R.S.E.

NEW YORK.

As a rule there is a disposition on the part of physicians, particularly specialists, who diagnose locomotor ataxia, to give a prompt and unfavorable prognosis, and to dismiss the patient with a few words of gloomy advice and perfunctory pity. It is for this reason that the victims of this serious disease of the nervous system fall into the hands of quacks and irregular practitioners, who promptly proceed to suggest and try fanciful remedies, and empty the pockets of a class of patients who grasp too readily at therapeutic straws.

To those who see much of this and like diseases it is a patent fact that there is always a liability to suggestion which seems almost characteristic and inseparable from the condition of invalidism.

An apparent improvement attends the administration of any new remedy, especially if it possesses novelty and is invested with a mystic import. For this reason one individual who has been in the local courts has made a large fortune from "magic" boots, which are sold at enormous prices, while a vast number of sheep and goats have contributed a part of their genitalia for the production of an equally profitable lymph. For a time all such invalids declare in triumphant tones that they are getting well and that the regular physician is an ignoramus. Sooner or later, however, the novelty ceases and there is a relapse. An experience of a great many years has made me familiar with all this, and I have been impressed with the wisdom of antagonizing the quack and working as long and faithfully as possible for the patient's welfare, although the outlook is often discouraging. I think this is also the view of my friend, Dr. Dana, who has had unusual therapeutic success.

Two classes of cases present themselves. One includes about 60 per cent. of all patients in whom there is a specific cause, and in whom the tabes is due to a parasyphilitic infection. This is progressive and usually incurable, but even this may be greatly modified if not arrested by intelligent treatment. The cases that form the other 40 per cent. are not only greatly helped but often cured.

Of course the existence of arthropathies, lost reflexes and atrophy of the optic nerve indicate neural disease that has gone on to actual destruction; but there are other symptoms which if treated with appropriate remedies will repay all the efforts of the physician.

Bearing in mind the luetic causation of so large a proportion of cases of tabes, we naturally turn to the use of one of the two universally used drugs that are available to combat specific disease of all kinds; but it must be admitted that only in a very small proportion of examples of tabes, as well as other organic nervous disease due to parasyphilitic causation, does the use of mercury and the iodids do any natural good. In fact, it has been often alleged that specific treatment is apt to do harm. In a small number of suitable cases, say 20 per cent., the employment of the former especially is serviceable. In some patients the disease develops very rapidly, and the early stage merges quickly into the second in such a way as to suggest the energetic activity of a syphilitic toxemia. I have known many such cases in which, within two years after there were recognizable initial symptoms, there would be well-developed ataxia. In other cases, in which there were attacks of paralysis of the ocular muscles, the exhibition of iodid or the use of inunction would prove of the greatest service almost immediately.

Again, in the mixed types it is clearly indicated. In this connection I may refer to a patient who had his initial sore six years ago, and in whom no symptoms of any kind developed until the spring of 1908. There were then vague, fulgurating pains, Argyll-Robertson pupils, loss of knee-jerks on the right side, and a static ataxia. There were no bladder symptoms, but there was constipation. One month ago (October, 1908) the patient came to me. He was then able to walk but in a disorderly way, there being no true locomotor ataxia. Two days after his arrival there was complete loss of power in both legs, loss of both knee reflexes, exaggerated plantar reflexes, increase in tactile, pain and thermic senses, no incontinence of urine but frequent priapism, inequality of the pupils and no reaction to light. The patient was immediately put on an inunction of mercury, large doses of iodid and ergot, with the result that in two weeks there was slight return of power. Here, then, was a probably irregular subacute myelitis, chiefly located in the dorsal spine. It had been diagnosed at home as tabes.

Profiting by the teachings of Russell Reynolds, a clever English physician, whose work in the seventies, as the result of an illogic reverence for all that is German in medical literature, has been almost forgotten, I have for years used, and with encouraging success, the bichlorid of mercury, either in small doses by the mouth or by inunction by means of some readily absorbable agent, and this has acted better than any other mercurial salt except perhaps the protoiodid. By inunction it is superior to any of the oleates or better-known salves or emulsions. Nitrate of silver or other drugs of the kind are, of course, useless and obsolete.

The treatment of special symptoms is, I am convinced, of great importance, and most encouraging results are possible, so that we should direct our attention to the modification of the pains, the ataxia and the cystitis which is so important a feature.

The treatment of pain is often most difficult, and a long list of remedies of more or less popularity have been utilized, often with little or no success. Pyramidon is about the best of the coal-tar remedies, but none of them is of much use except in dangerous doses when the pains are severe or of long standing. A careful record and study of nearly every case will show that the barometric changes have much to do with the pains, and it is for this reason that they are often called rheumatic. If this influence can be determined large doses of one of the salicylates or of aspirin may be recommended. The most effectual remedy, of course, is morphin, and it is my experience that if it is used under a physician's direction there is very little danger of producing a habit. Prolonged warm baths will often diminish the pain without any other treatment, and if proper apparatus is available a more extended kind of hydrotherapy may be prescribed. Gastric crises are often associated with intestinal disturbance and sometimes with autotoxis. Dietetic regulation should, therefore, be instituted, as well as the administration of antiseptics, especially hexamethylenamin, or borax. The crises of pain occasionally yield to the analgesics just suggested, as well as to the nitroglycerin in frequently repeated small doses. We may at the same time apply the actual cautery, or cup the dorsal region.

Several forms of systematic exercise have been recommended for the ataxia, that of Fraenkel being perhaps the best. The idea is to train the individual so that he may be able better to coordinate, thus overcoming the ataxia. Directions for the use of this series of exercises may be found in several of the standard textbooks; others will suggest themselves to the practitioner, who should study the necessities of each case and the details of the disorderly movements. I have been in the habit of utilizing a modification of the "setting-up" military drill. It is also well to encourage the patient to stand with his eyes closed, and this static ataxia may be modified by making the patient stand with his feet approximated with his eyes shut; the hand of the operator may be placed on one shoulder of the patient, thus supporting him, but it should be gradually removed so that, if possible, he may be made to preserve the erect posture without assistance. Sometimes this does a great deal of good and favors the development of that kind of courage and self-reliance, the loss of which causes so much demoralization when the patient is suddenly startled or he attempts to cross a crowded street.

As a rule, the persistent employment of regular exercise which teaches the patient to train his power of balancing and the direct corrective use of vision and touch, as well as precision in consuming particular acts, do much good, although the fact must be borne in mind that the real purpose is not to accomplish the effects of ordinary gymnastic exercise or violent massage. Of all diseases of the spinal cord none is more influenced than this by the evil effects of fatigue, so that indiscriminate calisthenics or immoderate walking are extremely pernicious and retard or actually thwart all our best-directed efforts. As a rule, it is best to advise long periods of rest and suggest moderate superficial massage, only sufficient to keep up the local tonus of the muscles or to facilitate the emptying of the capillary vessels.

Systematic exercise should not be used in cases in which there is much pain or in which there are gastric crises, or where there is reason to believe that the bones are friable.

In many cases the ataxia proceeds directly from the plantar anesthesia, which is usually most pronounced on the peroneal aspect of the foot.

Many suggestions have been made as to how this should be treated. Strange to say, it is not always profound nor is it of necessity persistent, although the rule is that it is a permanent sensory disturbance. Mere rubbing or faradization with a wire brush is rarely effective, and it is surprising sometimes how much the walk will improve if the high-frequency current be applied directly to the soles by means of a spark electrode. I have no faith in the use of electricity in any of its forms in any other way, although I have used them all. In hysterical cases in which there is a great suggestibility, of course this as well as any measures that appeal to the imagination will do temporary good.

In about 60 per cent. of cases of tabes there is more or less involvement of the bladder, which varies from mere dysuria due to atony, to paresis and dribbling, and actual cystitis produced by the accumulation of residuary urine is common. It is strange how much mischief such a condition with its attendant toxemia may produce. For some reason which we do not understand, the tabetic patient is especially subject to the influence of toxins and septic poisoning, while intestinal troubles as well as cystitis are responsible for a decided aggravation of his disorder and profound exhaustion, and a continued condition of this kind was at a previous time often mistaken for secondary tuberculosis.

About six years ago a patient came to me from a Western city. He was almost helpless and his ataxia was so pronounced that he had to be helped from his carriage and almost carried into my office. Beside the familiar disappearance of the deep reflexes he was exceedingly emaciated and feeble, and suffered from gastric crises with diarrhea and had the classic pains and ocular symptoms and a great deal of vesical disturbance.

His home physician had inserted metal sounds insulated to their tips, and applied galvanic current to the interior of the bladder, but no attempt had been made to wash this viscus, although it contained at all times much offensive urine. Two days after his arrival in New York he took to his bed, having rigors and high temperature and other evidences of infection. His temperature ranged from 101 to 105, and for several days it was between 103 and the latter figure.

His condition became so alarming that his friends were sent for. Ordinary lavage of the bladder promptly removed the difficulty. The patient's temperature subsided, and in a week or so he was permitted to leave his bed. Then the use of systematic daily washing and catheterization and the internal administration of hexamethylenamin and atropin effected a remarkable change. Under proper regimen and supportive treatment the patient soon became able to walk, discarding the help of other people and his cane; got in and out of his automobile, and now has very little ataxia or other symptoms, and actually plays golf.

While the patient's reflexes are still absent, his affection seems to be at a standstill, and he is much encouraged. In these cases, which are numerous, it is of importance to wash out the bladder at regular intervals for a long time, and this may be done with a normal salt solution or a borax solution, while hexamethylenamin may be given well diluted in ten-grain doses, and especially when it becomes necessary to discontinue the lavage for a few days.

In this connection I may say that I never have seen a case of tabes in which there were any urethral lesions.

As a claim has recently been made that the determining cause of tabes is a lesion of the urethra, I wrote to Dr. James Pedersen, one of the most skilful genitourinary surgeons and urethroscopists, who replies: "I am willing to say that I do not recollect having treated with benefit to the general condition any true case of locomotor ataxia. I can, however, say that cases with symptoms of spinal and cerebral neurasthenia, having at the same time genitourinary lesions, have, of course, been benefited by local treatment."

These patients require a warm winter climate and at all times one that is preferably dry. San Antonio is an excellent place, and Lower California is also suggested, provided that high altitudes are not sought or do not increase the patient's distress. There are various places in Colorado well adapted for the sojourn of tabetics.

It must not be forgotten that a considerable number of patients, specially in cases due to shock, trauma or hysteria, in which there is no syphilitic basis, may be cured in a comparatively short time and by very simple measures. I have elsewhere recorded a very interesting case of this kind, and since its publication I have had equal success with others.[1]

25 Madison Ave.

CURATIVE EFFECT OF REST IN CHILDREN WITH PERSISTENT LOSS OF APPETITE.[*]

IRVING M. SNOW, M.D.
Clinical Professor of Diseases of Children, University of Buffalo.
BUFFALO.

There is occasionally seen in children a group of symptoms which are benefited by rest, and by no other treatment.

The little patient, from 2 to 10 years old, is brought to the physician with a general complaint that he has been in poor condition for several months, or that for a long time he has been alternately up and down, going to school for a few weeks and then collapsing into a curious state of physical prostration. There is usually no history of antecedent illness or predisposing cause. The parents will state that the child has a most uncertain appetite, and, in fact, at times will eat so little that it is a wonder that he can exist. Often the patient will refuse several meals in succession and will habitually reject the most important articles of diet—meat, eggs, vegetables. Often the boy or girl is subject to the most correct regimen; the meals are nicely prepared, most appetizing in variety and flavor, appealing to any normal childish palate, but the child remains absolutely indifferent to his food, taking the most minute quantities after prolonged urging. As a consequence of this voluntary semi-starvation, the chronic lack of appetite is associated with excessive muscular weakness and certain nervous symptoms. The child shows a singular unrest, is unable to keep still, but tires under the least exertion. He can not run or walk any distance without fatigue.

A boy of this type will show no physical courage. All normal boys are combative, a little inclined to play the bully, eager to show their strength and skill. Pluck is a valuable asset for a boy. It is well for him to fight occasionally for his rights; it increases his self-respect and prevents much of that hateful nagging which is universal in school life.

The boy's parents and friends are secretly ashamed of his lack of nerve. A girl shows equally her feebleness by her languid movements and has to be urged to take exercise. For several months there may have been a steady loss of strength or recurring periods of prostration.

If under 5 years of age, the child may behave differently. Part of the time he is running about, fussing with his toys; in active motion for a few minutes, then lying down or wanting to be held. He is either in incessant motion or limp with fatigue. There is no rest for the child's attendant. He is capricious and ill-tempered; will not eat, play or sleep at the right time.

In temperament, such children may be of an attractive type, animated and graceful in manner, charming in expression and talk, but nervous and precocious. More often they are irritable, emotional, highly neurotic; at school they learn with difficulty, have small powers of concentration, are easily confused, and are much worried over the more rapid advance of their comrades. They are poor sleepers; if very young, will not take a noon nap; if older, do not fall asleep early in the evening—toss about in bed, awake, languid, unrefreshed.

There may be the history of an imperfect convalescence from an infectious disease, or a steady deterioration in physique without adequate apparent cause. Sometimes the parents will say that the child has had persistent treatment in the way of tonics, country or sea air, well-regulated gymnastics, with temporary benefit or utter failure, the child coming home a complete wreck from a long vacation. He has perhaps grown rapidly in height without any increase in weight, which is stationary or even diminished.

SYMPTOM-COMPLEX.

The patient should be carefully examined and every detail of his life considered. In the etiology of the malady, heredity generally plays a minor rôle. The parents are as likely to be of vigorous physique as of delicate, neurotic constitution. All local or constitutional diseases should be searched for as a cause for the patient's continued ill health. He or she will be found to be under weight with slender limbs and poorly developed muscles; pale and rather withered in appearance. The tongue will be clean, with no serious disturbance of digestion, no secretory or motor gastric lesion. There is a general constipation from inanition. The pulse may be rapid, irregular or often normal.

Particular attention should be given to the condition of the heart. The cardiac symptoms will often be interpreted by the personal equation of the physician's mind. A considerable cardiac dilatation may exist. The heart sounds may be normal or so-called functional murmurs heard at the apex or pulmonic areas. As a rule, the heart is in good condition and all organs and functions are in order.

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[1] Railway and Other Injuries, etc., p. 209 et seq. New York, 1904, William Wood & Co.

[*] Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Thus the positive symptoms in our symptom-complex are:

1. *Chronic Loss of Appetite.*—Patient under weight; indifferent to food.
2. *Extreme Weakness.*—Inability to run, walk or play; patient collapsed with fatigue at frequent intervals during the day.
3. *Nervous Disturbances.*—Deficient, restless sleep; lack of concentration at study. Some cases emotional and irritable; others apathetic. Child very fidgety in manner, illustrating the pathological law that deficient capacity for functional activity is associated with undue readiness for slight actions.

The condition under discussion is to be clearly distinguished from anorexia nervosa, first described by Sir William Gull, and recently ably reviewed by Forchheimer in an article, "Anorexia Nervosa in Children."

Playfair states that true anorexia nervosa is a very rare neurosis, a psychosis characterized by an aversion, an excessive disgust for food, indicating profound alteration in the nervous system.

Anorexia nervosa is a type of hysteria causing a rapid loss in weight without organic lesions. It is accompanied by delusions and by marked hysterical manifestations. The patient shows a strange unrest and tendency to overfatigue from constant walking, which leads to the exhaustion so easily produced in the starved body. The essential point, when dealing with anorexia nervosa, is to remove the patient from his domestic surroundings and to associate isolation with rest, massage and overfeeding. All authors agree that without isolation the treatment will certainly fail.

This article deals with a persistent loss of appetite or indifference to food, from nervous or muscular exhaustion, with no cerebral disturbance. The patient may be emotional, petulant, naughty, but there are no delusions, no hysteria. In both conditions there is a constant unrest and tendency to walk to the point of exhaustion, resulting in prostration and rapid emaciation.

The physician is apt to concentrate his attention on the anemia or cardiac dilatation, or to regard the child's nervousness and lack of appetite as the malady itself and not due to the underlying cause, a deficient power of muscle and nerve to sustain any prolonged effort.

Slight temporary cardiac dilatation is common enough in children and may produce weakness and anorexia, but the symptom-complex under discussion may also coexist with a heart of normal sounds and size.

The influence of school life in depressing the health of children is very much overrated. Sometimes the hygienic influences at home are at fault; generally the patient is not fit to go to school at all; any exertion, physical or mental, produces a deterioration in physique.

The patient's ill health is often perpetuated by the false idea that exercise and out-of-door life are beneficial. It will be found that whatever the child does is too much for his strength. Often the patient's extreme nervousness stimulates him to be in constant motion, to run about and play for a few minutes, and stop from exhaustion, a state analogous to the nervous gestures and lack of repose of a neurotic man or woman. Gymnastics increase the trouble; the most skilfully administered tonics—iron, arsenic, strychnin, etc.—produce no permanent improvement.

The case being thoroughly reviewed, and definite organic lesions being excluded, it will be evident that the underlying cause of the chronic exhaustion and anorexia is either a congenital lack of vigor, or is the result of faulty environment and habits and mode of living.

Such conditions occur in all stations of life, but are most frequent in children of a nervous type, whose interest in life is most intense, who may dominate the family by their strong will and persistent selfishness.

If the semi-invalidism and anorexia are merely due to too much milk, too monotonous a diet, to an imperfect convalescence with an insufficient period of rest and treatment, or too vigorous athletics, a change of regimen will insure a rapid and permanent restoration to health. But there are some children who early show an inherent weakness of constitution, a nervous excitability which may be a formidable handicap to their future career. Both in childhood and in maturity, after an unusual strain, they sink into a state of physical and intellectual prostration. If the constitution is correctly understood, they are quickly restored again.

TREATMENT.

I have adopted a plan of treatment in this chronic anorexia and prostration which may not be original, possibly is centuries old, but which is certainly effective, though strangely neglected. The idea is to give the patient a more or less prolonged period of inactivity, to allow him to rest until his reserve forces are accumulated. The inherent vigor of the patient is given opportunity to recruit. The parents are told that the cause of the child's ill health, poor appetite, insufficient sleep, ill temper, lack of muscular endurance, is chronic exhaustion, and that the boy or girl will probably improve if kept in bed two or three weeks and then given a short day of perfect freedom.

This advice will at first seem heroic; the mother demurs at the incessant care and attention which the child, if young and self-willed, will require. A good nurse is a valuable adjunct, always assuming her to be of a good temper, agreeable disposition and able to control and divert the little invalid.

The directions are that the boy or girl be put to bed and kept there for two weeks. In winter the patient, well wrapped up, may be given an airing with the windows open. In the summer the child may be put in a hammock or may lie on a lounge out of doors. A younger child may be placed in a perambulator, but no driving or automobiling, which excite and tire the patient and may offset the good of the enforced confinement, is permitted. The body should be sponged off and well rubbed, morning and evening, as a matter of toilet, and also to relieve the restlessness. A suitable, nutritious diet, well cooked, varied and attractive, with no especial restrictions should be served.

The child's attendant may amuse him with games and toys or read diverting stories, but may never scold or irritate it. Tonics may, of course, be given, but they are accessory, not essential elements of treatment.

EFFECTS OF THE REST.

The youngster will at first rebel at the irksome restraint and interference with his wishes and will cry and fret to get up. In three or four days the patient will grow more tranquil, realizing that his will is not the law of the household, and will commonly make less trouble in bed than when he was fussing about the house. He is no longer incited to study, to play or to compete with other children. In the absence of fatigue and nervous strain the child turns to eating and sleeping. After a few days in bed, the effects of rest will be evident in the appetite. The child will show a keen and critical interest in his meals, consuming enormous portions. The food is perfectly digested. As the constipation in the case is due to underfeeding and lack of muscular tone, no laxative is now necessary. Sleep will come quickly in the evening—quiet, continuous, refreshing slumber.

The fine appetite of convalescence from an acute disease is due partly to the cry of the tissues for nourishment to restore the wasted cells, but also to the maintenance of muscular inactivity. The nervous secretory mechanism of digestion is not inhibited by fatigue or exercise past the power of endurance.

Less food is required in conditions of rest than of activity, but it is a clinical fact that the way to make a tired, growing child or an overworked, neurotic adult eat is to make him take rest. There is less difficulty in fattening an emaciated patient in bed than when he is up and about. Sleep intensifies the value of rest, insuring more absolute relaxation. The exact length of the stay in bed depends naturally on the previous condition and the response to treatment.

Rest should be continued until there has been a considerable gain in weight, a good appetite and natural sleep for ten or twelve days. There will now be a return of muscular vigor with a repose of manner as contrasted in the jerky, twitchy actions before commencing treatment.

An average period for the treatment of complete inactivity would be about two weeks. The nutrition, strength and appetite being satisfactory, the child may be dressed and given an hour's perfect freedom, out of doors if preferred. Improvement continuing, the period of activity may be progressively increased one hour more daily every three or four days until the child has six hours' perfect freedom in the middle of the day, out of doors for a part of the time. If the child be still delicate, or if the health be not quite at a normal standard, the short day should be continued for several months.

At this phase in the treatment, nutrition is much stimulated by a change of air, country or seashore, the patient being properly restricted in violent athletics and trials of strength. It will now be found that the powers of endurance of both muscular and nervous system are permanently augmented, that there is natural sleep, a steady increase in weight and a ravenous appetite with perfect digestion.

Most noticeable is the change in the disposition and character of the patient; the physical effect of the discipline and long tranquility result in the disappearance of the child's petulance and disobedience.

The boy or girl will develop good powers of mental concentration in study and conversation. The child will have spirit enough to play or walk or run for the relatively short time for which freedom is allowed. When the case is again medically reviewed, the cardiac dilation will have disappeared, the anemia will have been cured.

After a period of from two to four months, restraint is no longer necessary; the child may live its normal life. A recurrence of the anorexia is unlikely. The child will have grown in height and weight, is practically presented with an improved constitution. Some children have a large capital of strength, then others can bear only a few hours of activity, a minimum of mental strain. Their capacity should be estimated by their parents and physician, and their habits and career arranged accordingly.

It will at once occur to the reader that not all children with poor appetites require weeks of rest in bed. True; there are numerous borderline conditions in which two or three days of inactivity or a midday rest will suffice; but in these cases the languor or nervousness and anorexia are of short duration. If the symptoms have lasted for several months, the short or partial rest-cure is a waste of time; the invalidism will presently recur. To obtain a good result the full details of the treatment just described will have to be carried out.

If these patients are untreated, what becomes of them? The final result is apt to be a chronic delicacy of constitution, a lack of endurance, a fragile physique which will tell in after life. Still, adolescence brings new strength and varied interests and the majority of children struggle into a fair constitution in adult life.

ILLUSTRATIVE CASE.

Patient.—Girl, aged 5, only child. Complaint, lack of appetite and progressive emaciation.

History.—The patient has eaten almost nothing for two weeks; is absolutely indifferent to her food. She was born after a normal labor; was nursed three months; was afterward fed on cow's milk. She had occasional attacks of indigestion (vomiting), lasting a day or two, but had had no infectious diseases. During July she played with a cousin three years older. The incessant activity necessary to keep up with a stronger child produced the final collapse.

Examination.—Child of an active, nervous temperament; was always in motion; had no noon-day rest; was constipated; was a withered-looking child; weight, 28 pounds. Average weight at 5 years, 39 pounds; had lost 7 pounds in one year. Physical examination was negative.

Treatment.—The little girl was put to bed for one week. The second week she was allowed to lie in a cot out of doors. She proved most amiable and amenable to treatment. After the second day in bed she began to eat ordinary diet. In the first week she gained 3 pounds; in the second week, 1 pound. She was then taken into the country and given from one to two hours a day perfect freedom on her feet. Four months later I saw her again. She was plump and rosy, with a good appetite and regular stools. She now has from five to six hours daily of freedom to run and play. Her present weight is 34¾ pounds, a gain of 6¾ pounds in four months.

476 Hamilton Street.

ABSTRACT OF DISCUSSION.

Dr. Arthur W. Fairbanks, Boston: I have been preaching of the advantages of rest in the diseases of childhood for a number of years; and at Atlantic City a year ago I put forth one more plea for its more general employment. I believe that nervous energy, the nervous impulse to expenditure of muscular exertion in excessive amount by children is out of all proportion to their ability to respond without damage to the organism. He who will use his eyes will find confirmation of this fact on every side. I believe that the chief deleterious effect of this extravagant expenditure of muscular energy is felt by the heart, as part of the muscular system, but by far the most important part. I was interested to hear Dr. Snow say that dilatation of the heart is an occasional feature of these cases. He says that such children are unable to run, walk or play. That was exactly the condition in a series of cases that I studied. I have termed these subjective and objective disturbances in heart function, an "essential insufficiency of the heart," which, in its effects, is of infinitely more serious consequence than insufficiency of the muscles elsewhere. In my paper last year, of which this was the title, I described cases identical with those mentioned by Dr. Snow, cases I have observed during eight or ten years. If one will question these children he will find subjective complaint suggestive of insufficient heart as well as objective evidence of the same. I have always maintained that the diseases and accidents of childhood, when they do not result in permanent ill effects, are really often blessings in disguise, for they enable the child to get the rest that he would not otherwise receive. Many times parents will say, after a child has had an attack of measles, or some other slight illness, that the child is better than it ever was before. I do not think that the period of rest advocated by Dr. Snow is long enough. With a two weeks' rest, it would be only a question of time when the symptoms would recur, if in fact all of them disappear in so short a time. I also advocate the use of massage and warm saline baths. Later I use exercises, such as are employed in cardiac diseases. This entails careful nursing, but it is perfectly feasible to carry this out in any case at home, and all the results Dr. Snow has mentioned will follow if the case is treated in that way. The mistake is too often made by the family physician of not paying sufficient attention to conditions that do not present a picture described in his text-books.

Dr. Samuel J. Walker, Chicago: Dr. Snow has outlined much of the course of treatment I carry out in many of my own cases. I think that we can not emphasize too much the value of rest in the chronic loss of weight and of appetite and in all of the conditions below par. Dr. Kerley read a paper on malnutrition at Atlantic City that also made a marked impression on me, as it advocated the extreme value of rest in these cases not only in chronic loss of appetite but in all cases in which the child is below par. Where you suspect tuberculosis and can not get anything positive in the way of physical signs, what do you do? If the child is petulant, irritable, has a little rise of temperature in the afternoon, is losing in weight perhaps, what is the treatment? Rest, fresh air, hygiene, etc., all that Dr. Snow has brought out. Or take another class of cases. In many cases, weeks before the development of the typical choreic condition, there is this irritability, restlessness, and so forth, that precedes the development of the condition. Under such a method of rest as Dr. Snow has described the child's condition could be so improved that chorea would not develop.

Dr. Charles Douglas, Detroit: The cases reported here to-day give the impression that we should apply this method in a great many conditions other than the ones immediately presented to us. There is no doubt of the beneficial effects of this form of treatment. If we would look further into the physiologic processes going on we should be able to apply this method in other conditions as well as those mentioned. There can be no doubt that these children are overtaxing their strength just as a nursing mother often does when laboring too much. Enforced rest allows the nutrition to be appropriated, thus strengthening the digestive glands. The child is thus enabled to digest a larger amount of food and we see the benefit in a general improvement.

Dr. T. D. Parke, Birmingham, Ala.: Within the last few months I have seen proof of Dr. Snow's theory in a child showing the condition spoken of. The child had been spoiled and was under a nurse, who had absolutely no control over it. I insisted on the employment of a trained nurse. The child was kept in bed two or three weeks with all the windows open. Its appetite soon returned, as no effort was made to coax it, and after that there was steady improvement in weight and general condition. Anyone who attended the scientific exhibit at Atlantic City and saw a demonstration there, will never again question the desirability of keeping the muscle of the heart in good condition. The experimenter had a reservoir of water connected with a tube that communicated with the left ventricle through the aortic orifice. As the reservoir was raised, the water flowing into the ventricle under pressure, mechanically closed the mitral valve. When the reservoir was lowered the resiliency of the heart wall forced out the excess of water into the tube and the valve opened, thus giving a beautiful illustration of diastole and systole. The same experiment can be repeated through the pulmonary orifice for the right ventricle. These children are apt to have weak muscles generally. Wherever we find the muscle generally weak we must expect the heart muscle to be weak; and when the musculature of the heart becomes weak and too much strain is put on it, dilatation is apt to result. We should bear this in mind whenever a child has undergone a prolonged exhausting illness.

Dr. C. G. Kerley, New York: One year ago, as Dr. Walker remarked, I read a paper along similar lines and advocated a modified rest-cure. I still think that that is far better than the scheme advanced by Dr. Snow. I fail to see why a child who has simply a loss of appetite should be kept in bed. I get better results, I am sure, by having the child take his breakfast in bed. He is allowed to get up at 10 o'clock and remain until 12 o'clock. Then he has dinner and rests until 2 or 2:30 p. m. He is then allowed to be up for two or three hours in the afternoon. I believe that Dr. Snow would get better results by giving the child a change of air and a change of scene than he does by keeping the patient constantly in bed without any variety in his life. The whole matter is simply a question of the conservation of vitality. Most children overdo physically, particularly when playing with other children. They overdraw on their bank account of vitality and the result is a loss of appetite and all the other changes that go with an excessive expenditure of energy.

Dr. C. Rutherford, Chicago: I desire to call attention to the value of prolonged rest and enforced feeding in incipient tuberculosis. Last year in a case of tuberculosis of the hip-joint, by rest and forced feeding most excellent results were obtained.

Dr. Irving M. Snow, Buffalo: I agree with Dr. Fairbanks especially that the period of rest should be prolonged in cases of dilatation of heart. But in the paper I presented to-day I was not speaking of that. It is a fact, too, that what one considers a dilatation of the heart is dependent somewhat on the physician's idea of where the apex should be. Dr. Fairbanks thinks that the period of rest is too short; Dr. Kerley thinks that it is too long; but I have found that by keeping children entirely at rest for two weeks we can keep up the progressive gain in weight. I do not think that the time of rest in bed mentioned by Dr. Kerley is enough. I think the child should be kept in bed a fair number of days. The child is simply left alone; in this paper I do not advocate forced feeding.

HYPERPYREXIA IN CHILDREN.

ITS CAUSE AND TREATMENT.*

PHILIP MARVEL, M.D.
ATLANTIC CITY, N. J.

Pyrexia is one of the most complex of all symptoms of disease and one of the symptoms most constantly present in pathogenic disturbances of metabolism. It is rarely absent in acute infections or in severe trauma, and more frequently characterizes the nature of the disease and the severity of the trauma than any other symptom, except the rashes peculiar to certain contagious diseases.

Despite the many difficulties and indeterminable problems met in the study of the various causes of fever and the complexity of its maintenance, a large number of investigators have assiduously pursued series of researches, with the result that, as yet, science is without an altogether satisfactory solution of the subject. In the light of our present view of the fundamental causes of fever, so far as they are known, a brief retrospect of the past half century would seem both permissible and interesting from the standpoint of contrasting the theories and hypotheses of the past with the more recent discoveries of micro-organisms, their influence on metabolism and as primary causes of disease, particularly if we are now to consider pyrexia, in infectious diseases, as "a response, in the metabolism, to the invasion of micro-organisms, and toxic disturbances of the nervous regulation of temperature."

As far back as the middle of the nineteenth century the subject of pyrexia was one of great interest to those who had caught something of the inspiration of Johannes Müller's teachings, among whom there was none more earnest and capable than the beloved and venerated Virchow, who, having given a great amount of thought and much personal attention to the detailed investigation of the subject, was greatly interested in the hypothesis which described fever to be a "reflex process," in which the phenomena were responses to stimulation of the spinal cord by means of the "organic nerves."

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* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Contemporaneous with Virchow, but holding an altogether different view of the subject, were Weber and Schiff; the former, having recently discovered the inhibitory nerve of the heart, suggested that the central nervous system governed the circulation through two antagonistic forces influencing the heart, the one exciting, the other quieting, the cardiac action; and the latter, claiming to have discovered the "vasomotor system of special nerves," supposed this system to control the tone and activity of the capillary vascular system.

Shortly after Schiff's declaration, Virchow, who had already caught something of the idea of "antagonistic circulatory" forces, that is, the idea that fever might be a neurosis, expressed himself accordingly in his Treatise on Pathology, published in 1853. He was the first to teach a broader and more comprehensive view of the cause of pyrexia, which he afterward showed was not a mere production of heat, overaction of the heart or disturbed tension of the vascular system, but an actual failure of proper nervous control, and a disturbance, rather than an overproduction of the normal forces.

However, contributory science was too immature and imperfectly worked out, at that time, to furnish proof of how control was exercised. It, therefore, remained for Virchow to suggest a system of "moderating centers," which could influence not only the heart and blood vessels, but also the great complex organization of forces which is now designated metabolism. He believed fever to be a condition resulting from the state in which the nerves had, for some indefinable reason, lost their control over the "organic processes," which assumption was probably the first intimation of the part which metabolism is believed to play in the rôle of pyrexia.

In 1855 Traube discovered that in pyrexia the elements of nitrogen were increased, and this gave rise to the declaration that, if fever be a neurosis, then there must be a system of "trophic nerves," by which the chemical processes of the organisms were controlled; otherwise, the disturbances of the nervous system could not include tissue degeneration. Therefore he, as well as Virchow, held that there must be a "fever-producing agent," but differing, not with respect to its action on the inhibitory but on the vasomotor nerves, resulting in a contraction of the peripheral vessels, occasioning a diminution in their volume of blood, and, in consequence, the quantity of heat in the surface of the body, coincident with the rise of internal temperature. The increase in the difference between the degree of "normal external and normal internal temperatures, he considered to be fever, and its decline or defervescence due to nothing more or less than a cessation of the vasomotor spasm."

However, the explanation was short-lived and accepted only by a comparatively small number, and by them but a short time, for Liebermeister had already begun his investigations of the subject with the aid of the calorimeter, the outcome of which was to demonstrate that when the surface loss of temperature was entirely annulled, by raising the external temperature of the body to a point where no heat was parted with, the increase of internal temperature was nothing like so rapid or high as in the initial stage of many febrile states; therefore he formulated the well-known theory which bears his name, viz., "that in fever, as in health, constancy of temperature is insured by the adaptation of production to discharge and not of discharge to production," and, secondly, that "in fever bodily temperature is recorded in the same way as in health, with this difference, that the "norma' has become several degrees higher."

This theory was considered far from satisfactory by many, and not without serious objections, because, first, experiments and clinical observation failed to prove the statement that arrest of surface rise of temperature was adequate to produce pyrexia; and, second, the declaration that febrile temperatures tend to reach their "norma" at several degrees higher than normal, was open to critical difference of opinion.

About this time, Senator, one of the most thorough and capable investigators of his day, impressed by the variance of the theories which had preceded his conclusions on the subject, took up the study and arrived at results differing somewhat from those of Traube and Liebermeister, who differed slightly in their beliefs from Virchow, particularly with respect to pyrexia being a disturbance of the nervous system by which the constancy of the bodily temperature was maintained. It remained for Senator to present a still broader, if not a wholly different view of the subject, in which he recognized both the vascular and thermal disturbances and also the metabolic phenomena. Hence, for the first time, special changes in the metabolism were made a fundamental cause of pyrexia.

Simultaneous with Senator's investigations[1] were those of Leyden, whose conclusions differed from Senator's more with respect to the fact that the latter claimed to have found no marked increase of respiratory discharge of water or carbon dioxid in animals and, therefore, concluded that the only essential metabolic change in pyrexia related to increased degenerative changes in proteids, but the former, having extended his investigations to the study of the subject in man as well as in animals, and having estimated the loss of heat in limited portions of the body by the aid of a cylindrical calorimeter, calculated the relative loss from the special surfaces exposed with that from the whole surface of the body and inferred that, in fever, even where there is no visible perspiration, thermolysis might be even 40 per cent. greater than in health, and, contrary to the findings of Leyden, noted a corresponding increase in the respiratory discharge of both water and carbon dioxid, which he attributed to increased nervous activity and coincident respiratory movements.

Pflüger, a distinguished physiologist of his day also became actively interested in the study of this subject, directing his experiments more especially to determining the intake of oxygen and the output of carbon dioxid in both normal and fevered animals, with results that inclined him more particularly to the view of Liebermeister, viz., that "normal regulation consists in the adaptation of production to discharge," and that increased production is the essential element of fever.

This announcement, with further investigations by Senator, caused a modification of his former hypothesis.

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[1] Researches on the Processes of Fever, 1873.

which he subsequently stated as follows: "There is no absolute nor arbitrary interdependence of the disorder of nutrition and the pyrexia which follows; the only fixed causal relation being that which exists between the pyrexia and the coincident disorder of the cutaneous circulation."

Even this simple and apparently comprehensive explanation of the cause of fever was not permitted to go unquestioned for any length of time, for shortly thereafter Cohnheim, after a critical review of the subject,[2] gives decided preference to the theory of a neurosis, and, in a carefully arranged summary, declares as follows: "The nervous system presides over the thermogenesis no less directly than over the thermolysis," thus favoring the view of increased heat production throughout the febrile processes, while he admits that the cutaneous circulation is restricted in the initial stage of fever when the rise of temperature is rapid, but does not accept the declaration that this is the cause of the rise. Moreover, he believes the remarkable feat of the diurnal range and variations in pyrexia, which are so much greater than in health, are due to thermogenesis rather than to special changes in the circulation.

To appreciate properly the deductions resulting from the earlier investigations, it must be kept well in mind that up to this date, a little more than a quarter of a century ago, little or nothing was known of the cause of either periodic or bacterial fevers; hence there could be no reason at that time for attributing any direct relation between the circulatory activity, the presence of micro-organisms and the height of the fever succeeding their invasion. To Koch, Pasteur, Metchnikoff, Behring, Pfeiffer, Roux, Ehrlich and many other pathologists and bacteriologists humanity owes a debt never to be discharged, for their remarkable discoveries in the bacterial world and for the knowledge obtained of specific toxins and toxic substances.

It is true one can scarce conceive of either pyrexia or hyperpyrexia without giving great consideration to the master tissue of the body, viz., the central nervous system, and its far-reaching influence on the intercellular forces and major systems of circulating fluids, for under certain protected conditions microorganisms have little or no effect on the organized forces of the body; hence no hypothesis admitting an explanation of the causes of pyrexia or hyperpyrexia could be declared or even considered, that omitted a proper consideration of the relations existing between the central and peripheral nervous and circulatory systems, disturbance of these being the chief adjunct causes of fever. Indeed, any definition of fever which omitted reference to the associated influences of either increased or diminished activity or partial paresis of the central and peripheral nervous systems or of the circulating fluids of the general economy, would be most incomplete for the reason that extremely high temperatures in the febrile states are as often observed in traumatic injuries and in severe and prolonged exposure to both artificial and natural heat and also to the external action of cauterizing chemicals and internal ingestion of drugs as in acute pathogenic diseases.

Certainly, when clinically studied, one finds the average pyrexia so closely resembling the symptomatology and laboratory findings observed in the few infections in which the micro-organisms have been isolated, that we may safely assume that, in the majority, and I feel like saying in all, of the cases of infection, the micro-organism is the primary cause of the pyrexia, and where hyperpyrexia is associated therewith, the causes are the same, with the addition of some yet unknown interference with heat production and its deflection and that, through the circulatory and nervous systems, secondary causes are made more operative.

In the cases of extremely high temperature following the ingestion of poisonous drugs, of sera, of chemical irritants or exposure to intense artificial or natural heat, it would seem proper to classify these cases not as pyrexias or hyperpyrexias, but as high temperatures arising from varied causes which are even less well understood than those occasioned by micro-organisms, and might better be classed as hyperthermias.

In traumatic injuries, whether the injury be external or internal, direct or indirect, whether within the central nervous system or of some other tissues of the body, occasioning a structural lesion, the excitement causing the pyrexia would be, undoubtedly, primarily some external force.

For convenience of discussion I have divided the extreme temperatures into four classes, viz.: (a) Those due to micro-organisms and, occasionally, parasites; (b) those due to drug poisons and chemical cauterizations; (c) those due to traumatic injuries, and (d) those due to psychic and other neurotic disturbances. I appreciate the fact that in the foregoing division there may properly arise a question as to the propriety of such a classification, but since the same is made for the convenience of this discussion rather than with reference to scientific acumen, doubtless the above divisional arrangement will be privileged. For obvious reasons I deem it proper to confine the further discussion of this subject to class (a), in which the causes of pyrexia and hyperpyrexia are accredited to micro-organisms. That the variations in temperature are due to some substances pathologic, chemical, toxic or ptomainic—produced by the specific microbe characterizing the disease present—I assume will be accepted without further reference or special proof.

For convenience and a clearer understanding I shall consider the subject of infections further under two subdivisions, viz: (1) Those produced by endogenous and (2) those by exogenous causes.

By the term simple toxemia or ptomaine infection, I would characterize that condition following an overloading of the blood and lymphatic circulation with normal or abnormal food, or with tissue metabolism, as a toxemia arising from endogenous causes, and all cases of pyrexia arising from causes thus introduced into the circulations as endogenous diseases. All diseases which are sharply separated from those arising from food and tissue metabolisms and are of bacteriologic or pathologico-chemical origin, are more particularly known as contagious infections, which are truly toxic pyrexias, as arising from exogenous causes.

It is possible that the former may be bacterial in origin, but the micro-organisms involved are usually habitants of the intestinal tract and should be considered as differing and wholly apart from those present in acute toxic and contagious febrile states. The latter, in which bacterial wastes are elaborated from the activity of the organisms within the various tissues of the body, especially in the more important viscera, causing intense intoxication and poisoning of the system at times sufficient to threaten and even destroy life, differ greatly from the former and should be so recognized.

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[2] General Pathology, II.

Each of these infections produces its own specific product, the direct or immediate influence of which depends on the resistance within the system, by the presence and activity of the various so-called antibodies—anti-agglutinins, antitoxins, opsonins, etc. To what extent these primary or fundamental causes are vegetable, animal, pathologic and chemical I will not attempt to state, but the following inference would seem quite probable and even permissible, viz.: That the degree of the pyrexia is, in all probability, due to the intensity of the infection and the inability of the body to resist the invasion though the height of the temperature may be influenced, to some extent, by the heat environment to which the individual is exposed, as it has been noted in the records that a much larger number of cases of hyperprexia occur in the months of June to September, inclusive.[3]

Before disposing of the question of the causes of pyrexia and hyperpyrexia, the subject of the ductless glands and the relation of their secretions to functional and organic disease through disturbed metabolism would seem worthy of consideration. Though much has been written on the subject, particularly on the influence and activity of the perverted or abnormal secretions of these glands on the nervous system and the more important glandular organs by a number of French writers, and perhaps no less by one of our own countrymen, Dr. Sajous,[4] their place as a causative factor is far from proved. With our limited knowledge of their function and relation to the major forces of the economy, we can only regard them as secondary in their causal relation.

There is to-day, as in the past, with respect to this subject, some tendency to fix the responsibility of least well-understood happenings on least well-known causes. Simple abstract inductions, though obtained by well-defined methods pursued by carefully detailed investigations, rewarded by concrete findings in the study of many of the problems presented in the diseased and abnormal human forces, are not to be accepted as proved facts, and, until we know more of the *vis a tergo* in the circulation; of the life element and function of the protoplasmic cell; of the component forces and intercellular chemistry of the glandular secretions, and of the mutual exchange between the three great systems and their inimitable relations, will we know most of all that enters into the phenomenon we designate fever. Because the word is a convenient clinical term, it nevertheless represents a group of phenomena having a more or less definite sequence and origin which we can best express as a condition produced by pathogenic organisms or their products, operating within the body, disturbing the economic forces and raising the temperature "norma" to abnormal heights, or a more or less certain response in the metabolism to the invasion of micro-organisms or toxic disturbances of the normally regulated temperature.

In the following briefly tabulated cases of hyperpyrexia, which have been studied in my practice, I shall refer only to those which had, associated with high temperature, *some special feature of interest other than* the pyrexia. Age limit was from eight months to thirteen years.

TABLE OF CASES OF HYPERPYREXIA IN CHILDREN.

No.	Diseases.	Temperature.	Number of cases.	Per cent. Cured.	Mortality.	Per cent. of diseases.
1.	Acute articular rheumatism	106	1	100	0	0
2.	Bronchopneumonia	106 106.6	9	45	5	55
3.	Cerebrospinal meningitis	106 108 8	2	0	2	100
4.	Erysipelas	106-106 4	3	100	0	0
5.	Enterocolitis, acute and chronic	106-107 2	6	50	3	50
6.	Measles	106-106.8	4	100	0	0
7.	Intestinal worms (Ascaris Lumbricoides)	106-106 8	2	50	1	50
8.	Pyemia	106-107	2	0	2	100
9.	Septicemia	106-106.6	1	100	0	0
10.	Scarlet fever	107	1	0	1	100
11.	Tonsillitis, follicular; one postpharyngeal abscess	106-106.4	6	83	1	100
12.	Tuberculosis (meningeal)	106 110	5	0	5	100
13.	Tuberculosis (pulmonalis)	106-107.2	2	0	0	100
14.	Variola	106.2	1	100	0	0
			45	Av. 48.8	22	

I will speak first of the cases of enterocolitis, of which there were two, one acute, the other chronic with acute exacerbations; the first is of interest from the circumstances which surround the rise in the temperature:

Case 1.—Bessie A., 17 months old, ill ten days, bottle-fed, cause of illness, milk infection. Previous to illness child was well nourished, quiet and easily cared for. The temperature had been ranging between 102 and 104 F.; the largest number of stools in previous twenty-four hours was fifteen, mucus, muco-purulent and slightly blood-stained.

Treatment consisted in the administration of calomel, castor-oil, bismuth and alkalies, assisted by colon irrigations; fed on dilute egg albumen and milk whey. Parents being *non-residents*, were anxious to return to their home and family physician. Child's temperature on leaving Atlantic City in the afternoon was 104.2; journey was made in an ordinary passenger coach, child remaining on a pillow, supported on nurse's lap: cold compresses were placed over forehead and upper part of the head and frequently renewed; time consumed in travel, four and one-half hours. Temperature *on arriving in* New York was 107.2.

Child was immediately immersed in a cold bath preceded by being wrapped in a blanket wet in warm water. "Tubs" were repeated at intervals of one, two and three hours until the temperature was reduced and remained between 102 and 104 F. The dorsum was also rubbed, in the interim, at frequent intervals, for three to five minutes, with *pieces of* ice held in a towel, protecting the child with hot water bags *along the* spine between the shoulders and at the feet; colonic lavage with cold water was also used. Because of the stasis in the extremities and the cyanotic state of the mucous membrane, the treatment used internally during the time of temperature reduction was nitrite of amyl inhalations and hypodermic injections of 10 minim doses of Hoffman's anodyne.

After vigorous treatment of between *five and six* hours, the temperature remained between 102 and 103 F. *for the* next few days, and subsequently returned to normal, with final restoration to complete health.

Case 2.—Child, 3 years old, with a history of chronic enterocolitis, with frequent acute exacerbations; was much emaciated; skin pigmented, suggesting complicating disease, profoundly anemic. The blood findings *negative*, except for simple anemia; child died within twenty-four hours after I saw it. Unfortunately, autopsy was denied.

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[3] Allbut's System of Medicine, i, 821-831.

[4] System of Internal Secretions, etc., i and ii.

The temperature in this case was 106.6 F., and the pigmentation resembled somewhat that of Hodgkin's disease. It is not impossible that this may have been tuberculosis of the suprarenals.

Cases 3 and 4.—The next cases of special mention are two cases of measles, sisters, aged respectively 4 and 6 years, peculiar only in the fact that they had been healthy and well cared for; both were stricken at the same time and each had a temperature ranging between 106 and 106.4 F. on the afternoon of the second day; the rash did not appear until the afternoon of the third day, with the exception of a few slightly suspicious areas of erythematous rash, poorly defined, on the face and neck; Koplik's spots were present in the mouth, though few in number.

The temperature was reduced by cold baths, followed in each instance by being wrapped quickly in warm steaming blankets, which were followed in between five and six hours by a temperature ranging between 103 and 104 F., and subsequently by a natural convalescence and no sequels.

Case 5.—One of the cases of erysipelas is worthy of mention because of the age of the child, 8 months, and the rapidity with which the infection extended. First appearance of infection in the morning at 7 o'clock, on the lower third of the right leg; in two hours it had spread around the leg, forming a perfect zone one and one-half inches wide. This spread so rapidly both toward the foot and upper part of the body that in less than eleven hours the foot was completely involved and the extension upward had also reached the lower third of the femur. In thirty-six hours the whole leg, including the groin and the right side of the vulva, was involved. The temperature reached 106.2 on the evening of the second day, and again reached 105.8 on the morning of the third day; was reduced by wrapping the child in wet blankets wrung out of cold water and the injection of antistreptococcic serum, 500 units, on the afternoon of the first day; 1,000 units in the middle of the night of the first day; 1,000 units on the morning of the second day, and 500 units on the morning of the third day; this was supplemented with tincture of chlorid of iron, in small doses, of one and two drops, four times daily. Child recovered perfectly and is to-day in excellent health.

In the case of bronchopneumonia temperatures reach from 106 to 106.6. These cases exhibited their greatest interest in the fact that seven of them occurred in acute influenza, one in measles and one in whooping cough. High temperatures in bronchopneumonia accompanying influenza are not uncommon and are frequently above 105 F. In cases of whooping cough complicated by bronchopneumonia, hyperpyrexia is accompanied by a very high mortality.

Case 6.—Child, 3½ years old, and had whooping cough for three weeks, which was marked by rather severe paroxysms of coughing, hemorrhagic injections into the sclera and aggravated general bronchitis. The pneumonia developed at the end of the third week, following a rise of temperature which continued gradually until the third day of the pneumonic process, when it reached 106 F. The application of alternating cold and heat by means of wet blankets, protected, was resorted to with the result of reducing the temperature; the child died the following day.

Case 7.—Child, 13 years old, follicular tonsilitis, followed by a postpharyngeal abscess, in which the tonsillar involvement had been of rather indifferent and sluggish type, the temperature ranging between 101 and 102 F., returning to normal at the end of a period of nine days. Three days thereafter the temperature, preceded by a chill, suddenly rose to 105 F., falling to 103, and rose again the following morning to 106.2. Examination of the pharynx revealed a postpharyngeal abscess which was relieved and the patient recovered.

Case 8.—The case of scarlet fever was interesting from the fact that the rash was never fully developed and that the patient, a boy, 9 years old, was so toxic from the very first that he was never quite conscious six hours after the initial chill; he expired on the afternoon of the second day, with a temperature of 107 F. Little or no treatment was instituted here because the parents refused the application of hydrotherapy.

Case 9.—Perhaps no case in this list is of great interest than this. While all of us, possibly, have seen cases of hyperpyrexia occasioned by intestinal worms, but few of us, probably, have had the opportunity to see a case in which death followed, and in which the internal viscera were more or less infested by the parasites. In this case, A., a boy 9 years old, autopsy revealed a number of worms in the stomach, common and hepatic ducts; the temperature just previous to death reached 106.6.

Case 10.—This case had a temperature of 106.2, but by persistent purgation and the administration of santonin, etc., fifteen worms were discharged at different intervals, and the girl, 11 years old, recovered.

Speaking, briefly, of the general yet more or less special treatment of the average case of hyperpyrexia, one must have a definite conception of the patient's physical condition, natural resistance under normal conditions and temperamental control before selecting the form and frequency of the temperature reducing agent. Whilst hydrotherapy must form the principal safe means of temperature reduction, which should be modified in various ways to best meet the exigencies of the case, it will need to be supported by artificial heat and other forms of stimulating agents.

The primary exposure is of importance and should always be selected with reference to the physical and mental condition of the patient at the time of the treatment, so as to avoid too great a shock in its beginning. The methods may be selected to meet the patient's greatest comfort when the end to be accomplished is in no way affected by the means or methods employed.

The drugs to be employed should, at times, be supportive, at other times stimulating, and at still other times sedative; but at all times they must meet certain specific and definitely indicated requirements. Other agencies, such as artificial heat, oxygen, synapisms, etc., also have a place in the treatment of these cases and should be promptly applied when occasion requires.

The report of the study and observation of the cases of bronchopneumonia seen at the Infants' Asylum in the state of New York by Dr. Holt, in which hyperpyrexia was present in part of the cases, if studied from the relation of temperature to mortality, is not without added interest in this connection. It is declared that when the cases reached a temperature of 106 F. and more the mortality was 85.5 per cent.; between 105 and 106 F., 60 per cent.; between 104 and 105 F., 49 per cent.; between 102 and 104 F., 60 per cent.; and when the temperature never reached 102 F., the mortality was 71 per cent. These studies tend to prove that in bronchopneumonia high temperatures, under reasonable control, are protective rather than destructive, and though we have reason to believe that the normal resistance presented by this class of patients was far from being representative and of average comparison, nevertheless the mortality rate between 105 and 106 F. was not remarkably high, and between 104 and 105 F. was the lowest of the series. No doubt to-day, in the light of recent methods and advanced views on the subject, the mortality per cent. would be somewhat reduced.

Some of the facts set forth in the report are to the effect that in bronchopneumonia the highest and lowest extremes of temperature seen were the most dangerous, and a temperature between 104 and 105 F. was most protective.

For the purpose of further comparing the mortality rate of the cases reported by Dr. Holt, I merely call attention to a statistical report of 100 adult cases of hyperpyrexia treated at Guy's Hospital, London, by Dr. J. H. Bryant, in which the temperatures reached 106 F. and more, where the mortality rate was 84 per cent., and in the cases of bronchopneumonia it was 100 per cent. This would indicate that hyperpyrexia in adults with bronchopneumonia, considered from a small number of cases, is particularly fatal, more so than in children.

In my own cases the showing is quite a little better, due, no doubt, to the previous hygienic surroundings of the children and their out-door life and consequent robust resistance.

CONCLUSIONS.

The deductions to be drawn from the foregoing are:

1. That pyrexia is a complex phenomena occurring as a result of infection, injury, nervous shock or disturbance, the causal relations of which are as yet far from being wholly understood.
2. That hyperpyrexia is merely an aggravated pyrexia, and when present in certain diseases, such as bronchopneumonia, meningeal and pulmonary tuberculosis, pneumonitis or severe injuries to the nervous system is of grave significance.
3. That the rational use of cold water, properly sustained by artificial and internally stimulating agents, even in the extremely high temperatures, may, not infrequently, be followed by success.
4. That hyperpyrexia in children, though always signifying grave danger, is not so likely to be accompanied by fatal results, as in adults.

1616 Pacific Avenue.

ABSTRACT OF DISCUSSION.

Dr. T. W. Kilmer, New York: One point of especial importance is the application of cold packs. A favorite method of Dr. Kerley consists in the use of a bath towel with two holes cut in it for the arms. It is not wet when the child puts it on, so there is no fright. After being put on it is wet with water about 90 degrees, and later with water about 70 degrees. It is surprising to see how the temperature is lowered by the application of this cold pack. I know that one patient was kept in this pack for seventy-two hours, and I am sure that it was to this pack that the child owed its life.

PRESUMEDLY CURED GONORRHEA AND MARRIAGE.[*]

FERD. C. VALENTINE, M.D.

AND

TERRY M. TOWNSEND, M.D.

NEW YORK CITY.

Thirteen years ago it seemed timely to the senior writer hereof to sketch the dangers which apparently-cured gonorrheas[1] offer in the marriage-bed. It would be arrogant to tribute to that little effort anything more than the credit of being one of the early American papers on the subject. Other and better pens have since taken up the matter. The result is that to-day but few physicians will approve the marriage of a person who has had gonorrhea before all methods known to science to ascertain the presence of gonococci have proved negative.

Practitioners not especially trained in the study of genitourinary diseases are now asking specialists for the details of the all-important matter. It is in response to numerous demands for assistance that this paper is prepared. With a view to rendering the service as tersely as possible the magisterial tone is adopted and will therefore be pardoned.

THE HISTORY OF THE PATIENT.

A man who states that he observed the first symptoms of a gonorrhea within 48 hours after impure relations, is exposed to the suspicion of having then suffered a recrudescence of a preceding and perhaps forgotten infection or to have acquired the disease in a coitus within 8 or 10 days of the presumed cause. One in whom the first evidences of a specific urethritis appeared weeks or even months after coitus may have had a similar experience or may have failed to note the first manifestations of the disease. In the latter case it may have been a *blenorrhagie chronique d'emblée*, as Guiard calls what is ordinarily designated a "mild case." Parenthetically it may be observed that these so-called "mild attacks" often prove very rebellious. Discussion of the reasons for such rebelliousness is beyond the province of this paper.

Not infrequently an applicant for examination will tell that since the cessation of all symptoms of infection he has often had relations with women, among them several not given to sexual promiscuity. Indeed, his intimacies with one or another may have extended through prolonged periods, with the result that not one of them was infected by him. In explanation thereof several elements may enter, among which the most frequent only can here be mentioned. One woman contaminated with gonorrhea may have presented such slight manifestations of the disease that they passed unobserved, or she may have been perceptibly infected and have concealed her condition, to continue her hold on her lover; again, she may have had relations with another man, whom it might be more advantageous to accuse, and so on throughout the gamut of ignorance and cupidity. It would seem, however, fortunately for the human race, that a number of women, for a time at least, are immune to gonorrheal infection. No other explanation appears reasonable for the fact that some men, uncured of gonorrhea, marry without infecting their wives.

Let it be assumed, for present purposes, that the applicant for examination has had but one attack of gonorrhea. Let it be assumed, further, that for several years thereafter he observed no vestige of the disease. Nevertheless, it will be well then to subject him to tests which study and experience have methodized.

IRRITATION OF THE GENITOURINARY ORGANS.

With a view to obtaining all the evidence possible of what may occur in the course of nearly every man's life, the applicant is instructed to bring about as much irritation as he can by:

1. Eating freely of those things which he knows will disturb his digestion.
2. Drinking more champagne or beer than he usually consumes, but not to the extent of inebriation. If he is an abstainer or if the consumption of any quantity of alcohol easily leads him to inebriety, he is advised to consume very large amounts of carbonated beverages instead.
3. Inordinate physical and mental work, late hours.

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[*] Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] American Medico Surgical Bulletin, Oct. 1, 1895.

dancing, bicycling and horseback riding will contribute to irritating the genitourinary organs and thus enhance the intensity of the irritation.

These tests should be carried to the extreme of the applicant's endurance. It will be well to extend them over a week or ten days. If perceptible disturbance, such as even a slight excess of urethral secretion, or even discomfort on urination, arises before the expiration of the period mentioned, it will be in order to proceed with the next step of the investigation.

URETHRAL SPECIMENS FOR MICROSCOPY.

The patient is ordered to present himself before voiding his first morning urine. If for any reason, such as the distance of his residence or the need of very early rising, prevent this, the patient is provided with sterilized, blunt tooth-picks and microscopic slides and instructed in the technic of taking any excess of urethral secretion that may present. He is also provided with six 3-oz. (90 c.c.) clean bottles with clean corks, and instructed to pass into them his first morning urine. He is further instructed to write his name or other distinguishing mark and the date on the labels of the bottles, and to number the succession in which each bottle is used.

When the patient can come to the office before having voided his first morning urine, the urethra is stripped according to the technic described elsewhere.[2] Should stripping fail to bring an excess of urethral secretion to the meatus, the urethra may be curetted with a sterilized platinum loop and the results finely spread on a flamed cover-glass for microscopic examination. At the same time that a specimen is obtained for microscopy one or more slants of Loeffler's serum are inoculated by stabs and streaks and put into the culture oven immediately. They are kept at 99 F. Some of our colleagues deem room temperature sufficient for the purpose.

The patient is then instructed to half fill a 12-inch (180 c.c.) ignition tube with his urine and entirely fill as many more tubes as he may need to almost empty his bladder. The remaining quantity is passed into a final tube. As the patient has used each tube it is immediately stoppered with sterile cotton and marked by means of a "glass pencil" with the patient's name and numbered to designate its place in the succession of tubes used. If the urines intervening between the first and the last are perfectly clear and contain no "floaters" and if the first and last suffice for exhaustive microscopy, the intervening tubes may be discarded. The saved first and last urines, even if microscopically clear and free from "floaters," should be sedimented and the result prepared for microscopic examination.

SPECIMENS FROM PROSTATE AND SEMINAL VESICLES.

If the preliminary preparation of the patient has not resulted in a recrudescence of the discharge, the prostate may be massaged and the seminal vesicles stripped for specimens[3] in addition to those taken from the urethra. The contents of the adnexa mentioned, as they present at the meatus, are used for microscopic specimens and culture. Should no secretion be immediately obtainable by massage and stripping, the patient is instructed to walk about for a few moments; usually a slight oozing at least then presents. If this does not occur, the urine passed within five or ten minutes thereafter will be found in most instances to be loaded with the secretion that has not escaped ("Expression Urine"—Posner). Specimens herefrom are then available for microscopy.

URETHROSCOPY.

If within three days autoreinfection of the urethra has resulted, the discharge must be taken for microscopy and culture. If no reinfection has occurred, exhaustive urethroscopy is demanded. Specimens for microscopy and culture are then taken from any enlarged crypts or follicles that may be discovered. The most convenient means for pumping the secretions from the adnexa is the Kollmann gland aspirator.

Even if all the specimens obtained and cultures made prove to be free from gonococci, the presence of the infectious microbe is not to be entirely excluded, as it is just possible that all these may have happened to contain none of the microbes. For additional safety all the proceedings described should be repeated two days after the urethroscopy.

ARTIFICIAL LOCAL IRRITATION.

Both sets of examinations proving negative, further steps are indicated. An anterior irrigation with mercury bichlorid, 1 to 5,000, generally suffices to set up quite a severe urethritis, which is easily controllable by a few irrigations when no gonococcal invasion of the urethral stroma has occurred. When, however, the provoked discharge contains gonococci, the question under consideration is decided. Some urethræ show a marked tolerance of the bichlorid of mercury; it then fails to cause a discharge. Usually an injection with silver nitrate (1 per cent.) retained for five minutes will serve the purpose where the mercuric bichlorid fails.

THE SEDIMENTED URINE.

When examination of all genital secretions or hypersecretions fail to show the presence of gonococci, the sediment of urine may show the presence of the infectious microbes. The site where they are held residual must then be determined by repetition of the researches already described.

QUESTIONABLE MEANS.

In some countries the examination is not deemed final until the applicant has several times performed the sexual act with condums and has brought these with their contents for microscopic and cultural examination. We who ever have an innate repugnance against counseling extramarital coitus, especially to a man about to marry, do not care to avail ourselves of this test. This test is unpopular with patients and frowned on by the profession in this country. Whether this is due to innate morality, to delicacy or to prudishness is not now under discussion. We have, however, rarely found it expedient to avail ourselves of this test. The exception is whenever we are convinced that the individual presenting himself for examination has no intention of observing continence even on account of the approaching marriage. Ours would be a false morality did we fail to avail ourselves of his known weakness by suggesting that, should he indulge, it would be advisable to use a condum in order that its contents may be subjected to microscopic and cultural examination.

The future will decide the value of opsonic methods in determining the presence of gonococci. The time is not yet ripe for its discussion in a mere sketch like this.

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[2] The Irrigation Treatment of Gonorrhea: Its Complications and Sequelæ. William Wood & Co., New York, pp. 202 et seq.

[3] Massage of the Prostate and Stripping the Seminal Vesicles: Med. Rec., June 29, 1907.

All the tests proving negative, the series should be repeated a month or two later. If the second series of investigations expose no evidence of the presence of gonococci, it is fair to assume that, as far as present-day science can determine, the applicant may marry with safety to his future wife. Little beyond a mere inventory of the steps necessary to decide the all-important question has been offered. Even as such this paper has several specific objects:

OBJECTS OF THE PAPER.

1. The discussion, with which it may be honored, will bring forth the means employed by abler students to determine the momentous questions involved.

2. General practitioners, guided and advised by those who may by their comments give this paper value, will everywhere urge their ex-gonorrheics to be examined before contracting matrimony.

3. Marital communication of gonorrhea will consequently be much reduced and a vast amount of misery and death of innocent women eliminated from the trail of the disease.

4. The state will be spared the maintenance of an uncountable number of dependents.

5. Sanitary science will be advanced by its aid in combating the effects of a disease which can not come within the scope of sanitary enactments.

ABSTRACT OF DISCUSSION.

DR. J. M. **BEFFEL**, Milwaukee: I believe that the subject of this paper is the most momentous problem we have before us at this time. When we consider that fully 80 per cent. of the abdominal operations performed on women are due to gonorrhea contracted almost invariably innocently on the part of the women; that throughout this country almost 50 per cent. of the men between twenty and forty have had gonorrhea; that it is almost incurable, and that these men are constantly having this morning drop, and are not cured at all; when we look into the structure of the urethra, and realize that it is not a simple tube, but has folds and crypts in it, into which an antiseptic cannot reach at all; that it has twenty or more openings, and that the whole tract may be affected, from one end to the other, and that antiseptics can never reach those recesses, then it seems to me that this problem becomes one of the most important problems we have to meet. I am convinced that the general practitioner is not treating gonorrhea correctly, and that is the reason why the gynecologist is thriving as he is to-day. Fully 80 per cent. of the gynecologist's work is due to gonorrhea. When we take up another side of this problem, and realize that 40 per cent. of all the blindness in our asylums is due to gonorrhea, we must conclude that here is another enormous burden. In all probability deafness and consequent dumbness are frequently the result of infection of the ear by the gonococcus. So I say this paper is the most timely paper that has been presented to-day, tuberculosis and typhoid fever and all these subjects to the contrary notwithstanding. I do not believe we appreciate the magnitude of this problem. I think that I can safely say that no practitioner who watches a case of gonorrhea microscopically will ever be willing to give a person afflicted with gonorrhea a clean bill of health to be married. I have seen a large number of patients who have gone for months absolutely without any evidence that they had the disease, but when the prostate was thoroughly squeezed a discharge was yielded which was more or less rich in gonococci. In all the cases that I have treated, when the gonorrhea has run a course of more than six months, I have failed to find one, even though for six or eight months there had been no discharge, in which gonococci were not yielded in the prostatic secretion. The patient may even live a more or less irregular life without any symptoms of his gonorrhea, and yet the gonococci may be amply present in his prostatic secretion. As we come to use the microscope more, and express the secretion more carefully, we shall realize more and more the tremendous extent and persistency of this disease, which has received in past years altogether too little attention from the medical profession and from the laity.

DR. R. S. **YARROS**, Chicago: In the past the average physician has neglected his duty alike to the patient and his possible innocent victim; although knowing the dangers of gonorrhea, he has seldom told the patient the certainty with which this disease is communicated and the greater danger of the disease to infected women. But fortunately, there has been of late a moral awakening among the profession and the lay public as well with reference to this question, and the physician has no further excuse for shirking his duty. We have done considerable work in this city under the auspices of the Society for Social Hygiene and the Chicago Women's Club. A body of women have gone before most of the women's clubs in the city and suburbs, giving lectures on this subject, which have been received with great interest. It seems to me that it is the duty of the men in the profession to undertake a systematic propaganda among men. Each patient must be told of the dangers of his disease to those he might infect unknowingly and unwillingly. We must insist that a man who has gonorrhea shall not marry until he is cured, and in extreme cases, in which the patient refuses to take this advice, the innocent person must be given warning in some way. The time has come when we should take this definite stand to protect the innocent.

DR. O. C. **BREITENBACH**, Escanaba, Mich.: Attributing criminality to the transmission of venereal disease by either male or female, does not materially benefit the situation. Venereal disease is a social problem even more than a medical question. We all know the tenacity of a gonorrheal infection, and that this specific infection entails untold misery to those originally infected and to their offspring. The cure of gonorrhea is problematic, and therefore prevention of infection is of the highest importance. Education is the most efficient means toward this end. The American Medical Association and many of our state medical societies are putting forth efforts in this direction. It is gratifying to note the efficient cooperation of the laity. The efforts of Felix Adler, Graham Taylor, Jane Addams and many others promise good results.

DR. H. B. **HEMENWAY**, Evanston, Ill.: Several years ago a prominent druggist, who had been in the business thirty years, and who might naturally be expected to be better informed than the average man, asked me a question about the general dangers of gonorrhea. I suggested that heart disease might come from gonorrhea, and he was greatly surprised. He had been accustomed from time to time to accommodate his friends by putting up a mixture for treatment. When I met him not long ago he said: "From that day to this I have not dared to give any medicine for gonorrhea; I have sent inquirers to the physician." The real way to get at this subject is not simply to tell the doctor that he must instruct individual patients in what they must do, but to give general education. To-day a good share of the education in this line of work is given by very questionable publications that are distributed on the street corners or through the mail sometimes. The real and genuine education has been too much neglected. It is by talks in such associations as the Y. M. C. A., and through the regular publications, that the best education must come.

DR. J. N. **HURTY**, Indianapolis: We have a judge of the Indiana Supreme Court who stated that from his observations he had come to the conclusion that venereal diseases had an effect on crime and on insanity. He had watched many cases all the way from the lower courts to the Supreme Court, and after studying the matter, came to the conclusion that treatment of the disease would not be effective. I think that he is about right. It must be treated, of course, but that will do nothing or at least little toward prevention. What is to be done? Educate, you say. That is a long route, but it is the only one that seems to be left open to us. The judge to whom I have referred drew up a law, which was passed, making it illegal in Indiana for any person afflicted with venereal disease to marry knowingly. The State Board of Health has prepared a series of cards, which we call our red cards, one referring to gonorrhea and the other to syphilis.

These cards are distributed throughout the state to be handed by physicians to those who apply for treatment. I was once in a doctor's office when he received the cards, and he immediately threw them into the waste-basket, for he said that he would not cut off one source of his revenue. We have heard it said that pharmacists treat these diseases. I know that they do, for I spent a good part of my early life in a pharmacy. But what can be done? For a license to marry in Indiana one must go to the county clerk. We have, therefore, been instructing the county clerks about the prevention of the venereal diseases, so they might impress their responsibilities on young men and those who apply for licenses. At the present time both parties must, before a license is issued, swear to their best knowledge and belief they are not afflicted with any communicable disease. As yet I do not suppose much effect has been produced, but I hope that some time in the very near future we can report from Indiana a diminution in these terrible diseases, due to the efforts now being made.

Dr. A. H. Burr, Chicago: I read a paper before this Section two years ago on "The Guarantee of Safety in the Marriage Contract," in which I called attention to the weakness and the failure of the Indiana law to bring about definite results. As far as the Indiana law went, it was good, but it did not go far enough. As you have heard from the last speaker, the men who diagnose the cases are not physicians. The applicant diagnoses his own case, and he is not going to confess to any venereal infection. It is not to his interest to do so. He swears that, to the best of his knowledge and belief, he is not a victim of the disease. He may have had it, and think he is cured, and yet may be incurable. The trouble with the Indiana law is that there is no board of examining physicians, and the applicant passes through no process of investigation to know whether he is a victim of an incurable disease or not. If Indiana had a law like that of North Dakota, with an examining board, so that every candidate for a license to marry must present a certificate signed by two physicians of the examining board, it might prevent some of these diseases from being transmitted through marriage. I have seen the cards of which Dr. Hurty speaks. Some were sent to me by the secretary of the Indiana State Board of Health, and I take great pleasure in handing one to every patient with venereal disease that comes into my office.

Dr. Ferd C. Valentine, New York: A speaker holds that gonorrhea is practically incurable when the whole genitourinary tract is involved. Study and experience do not allow me to agree with this view. But, when gonococci invade the endocardium or the fourth ventricle of the brain, no remedy is known for the disease. Another speaker says that gynecologists thrive because general practitioners do not treat gonorrhea properly. Since specialists have done so much to teach the proper management of gonorrhea, the average general practitioner uses his best efforts in each case brought before him. The reason for the large amount of work that goes to the gynecologist lies in the public attitude. As yet relatively few men regard it as a moral duty to be examined before marriage. Indeed, it requires more than ordinary intelligence to appreciate that long after all crass manifestations of gonorrhea have disappeared, the patient may still be able to infect his wife. To obtain statistics regarding gonorrhea would entail reporting every patient with gonorrhea to the board of health. This would, in most instances, reveal the patient's immorality, break up homes, destroy the happiness of wives, deprive children of their fathers and involve violating our most sacred obligations. Rather than do these things, I would defy such a law and suffer incarceration for infringing it. The statement that no general practitioner would give a gonorrheic a clean bill of health led to the preparation of the paper we are discussing. The general practitioner is seldom called on to examine a patient before marriage. The reason is largely that the general practitioner, not being specially instructed in the technic of such examination, usually refers his patients to competent specialists. There are not, and there never can be, enough genitourinary specialists to treat gonorrhea. It therefore behooves the general practitioner everywhere to familiarize himself with this disease, and to examine his patients who have had active gonorrhea to determine whether they harbor residual gonococci. The man who has acquired gonorrhea is often unthinkingly condemned. Optimism and humanitarian sentiments demand a consideration of the matter in its true light. The majority still hold that for the male premarital sexual relations are natural. Whatever the cause of his acts, no man deliberately sets out to acquire gonorrhea. It is outside the province of the physician to act as the judge of such unfortunates. It is our duty simply to prepare ourselves to treat gonorrhea properly, and while so doing to endeavor to raise the patient's moral tone. It has been said that it should be the physician's duty to inform the woman with whom a gonorrheic intends to have legal or other sexual relations, of the fact of his infectiousness. I know of no means by which the physician could obtain information of the intention; and, if he could, nothing could excuse the violation of professional confidence. Moreover, the woman would resent the warning. The work of educating the public is being so excellently performed by our American Society of Sanitary and Moral Prophylaxis that a hope to see its membership reach a million in the next year or two is fully justified.

It is regrettable that Tarnowsky's "Prostitution und Abolitionismus," one of the most important books on this subject, has not yet been translated into English. It quotes anthropometric studies of 500 prostitutes, every one of whom had at least one stigma of degeneration. Thus prostitution was stamped on them before birth. Fournier has shown that public prostitutes disseminate venereal diseases less than do others. The greatest number of men are infected by clandestine prostitutes: they are beyond the reach of the written law or of moral precepts.

THE CLINICAL VALUE OF THE SPIROCHÆTA PALLIDA IN THE DIAGNOSIS AND TREATMENT OF SYPHILIS.

FREDERICK G. HARRIS, M.D.
Adjunct Professor of Dermatology, College of Physicians and Surgeons, Medical Department, University of Illinois.
AND
B. C. CORBUS, M.D.
Lecturer on Dermatology and Genito-Urinary Diseases, Post-Graduate Medical School.
CHICAGO.

When Schaudinn[1] in 1905 described the *Spirochæta pallida* as the probable cause of syphilis, the study of that disease received a new stimulus. As usual, the discovery of the cause of a disease is followed very shortly by a broadening of our knowledge of that disease. So it has been with syphilis. The research and experiments which were stimulated by Schaudinn's report and made possible by the discovery of Metchnikoff and Roux[2] in 1903 that syphilis could be inoculated into the higher apes, have already illumined so many of the dark places of this protean disease that the time seems to be not far distant when syphilis will be given a rational pathology and a logical therapy.

For the practitioner animal inoculation has merely a scientific interest. The demonstration of the spirochete on the other hand, has the same significance for syphilis that the presence of the tubercle bacillus has for tuberculosis or the gonococcus has for gonorrhea, and the demonstration of the spirochete is just as essential for diagnosis—in fact, in the case of primary syphilis is even more essential.

That the *Spirochæta pallida* is the true etiologic factor in syphilis, all who have followed the literature must concede. It would be impossible to give here a résumé of all the work that has been done on this subject, the bibliography being already very extensive. The following facts represent briefly the principal reasons for considering the organism specific.

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[1] Arb. a. d. k. Gsndhtsamte, 1905, xxii, No. 2, p. 527.

[2] Ann. de l'Inst. Pasteur, xvii.

1. It has been found innumerable times by observers in all parts of the world.
2. It has only been found in syphilitic, never in nonsyphilitic lesions.
3. It has been found in the lesions of every stage of syphilis, even in the gummatous or so-called tertiary stage.
4. It has been found in every type of syphilitic lesion.
5. Syphilitic material containing spirochetes has been inoculated into monkeys and the spirochete demonstrated in the lesions so produced. Material from these lesions produced the disease in a second series of monkeys and so on for forty-two successive inoculations, all the lesions of which showed the spirochete.[3]
6. Human material containing the spirochete gives the reaction for antigen with the serum of syphilitics.

It is a fact that the medical profession of the United States has been rather loath to accept the spirochete as the specific cause of syphilis. Those of the profession who have accepted it have not appreciated the great value of the organism as an aid to diagnosis and treatment. One reason for this has been the difficulty of staining the organism, as is evidenced by the numerous methods advocated for that purpose, none of which is very reliable. By the best method the organisms stain so faintly that it usually requires a prolonged search to find them. Again, it is very difficult to differentiate the stained specimen from other spirochete-like organisms. Hoffmann, Schaudinn's collaborator in the discovery, has emphasized this difficulty and he says that in a stained specimen the diagnosis should only be made by an expert, one who by close familiarity with the organism has acquired an intuitive knowledge of its morphology. It is a fact that the stained specimen lacks some of the characteristics of the living organism, chief of which are:

1. In the stained specimen the organisms are much less numerous than when the same material is examined fresh.
2. The method of preparing the specimen causes the organisms to lose to a certain extent the acute winding of the spirals, which is so characteristic of the living organisms.
3. Probably one of the greatest disadvantages of the stained specimen is the absence of motility. The motions of the spirochete are very characteristic and are of inestimable assistance in differentiating the pale from other spirochetes.

THE DARK GROUND ILLUMINATOR.

A much more convenient as well as infinitely more reliable method of demonstrating the organism is in the living state, by means of the so-called dark ground illuminator. This method was described by the Rev. J. B. Read in 1837, who used practically the same apparatus that we are using to-day. Read described his method just at the time that Professor Abbé brought out his well-known substage condenser and in the excitement over Professor Abbé's invention the dark ground illuminator was forgotten until rediscovered by Reichert, the microscope manufacturer of Vienna, in 1907.

The advantage of this method depends on the illumination, the principle of which is the same as that causing dust particles to become visible when passing through a beam of sunlight.

The apparatus of Reichert (Figs. 1 and 2) consists of a metallic plate (Fig. 2, A), having a hole in the center, above which is fitted a piece of glass (Fig. 2, B), having a circular excavation on its under surface; the sides of this excavation are ground at a certain angle and silvered (Fig. 2, C, D). By means of a revolving disc (Fig. 2, E) different sized diaphragms are used to cover the central part of the excavated area, so that when the light is reflected up from the plane mirror of the microscope, only the marginal rays reach the glass plate. These impinge on, and are reflected by the silvered sides of the excavation to a central point 1 mm. above the surface of the glass plate. Any solid body here will intercept these rays and appear as luminous objects on a dark ground. By this method it is possible to see the particles of colloidal substances in their solutions.

THE REICHERT INSTRUMENT.

A form of dark ground illuminator is now manufactured by most of the microscope makers, but the Reichert instrument is superior to others for the following reasons:

1. It can be used on any kind of microscope.
2. By means of the revolving diaphragm the amount of light may be varied at will.
3. It is possible to change from the dark ground method to the ordinary method of transmitted light by merely revolving the diaphragm.

The method of using the apparatus is as follows:

The Abbé condenser is removed. A strong light is necessary; one may use sun or arc light, a Nernst lamp, or an inverted Welsbach. Except with the sun or arc light, a six-inch condenser lens is necessary, or a large glass globe filled with water serves the same purpose. The illuminator is placed on the stage of the microscope, and by means of the low power the circle which is etched on the glass plate is brought into the center of the field and the apparatus fixed in this position by means of the clips on the microscope. A drop of immersion oil, free from air-bubbles, is placed on the center and the prepared slide put in place. great care being taken to avoid the formation of air-bubbles. When the preparation is examined with the low power, if the light is placed right and the apparatus centered, one observes a bright central point. The high power is now turned on and the field is seen to be dark, with luminous points and bodies.

PREPARATION OF THE SPECIMEN.

The method of preparing the specimen is very important. The slide must be 1 mm. thick, and both slide and cover-glass must be perfectly clean and well polished. as any turbidity or scratches disperse the light and cause annoying halos, which prevent the dark ground effect or interfere with the examination. Air-bubbles in the specimen also cause these disturbing effects. The specimen must be as thin as possible. The observation is best made with a dry system. We use a Leitz 1/8-inch objective and a No. 5 ocular. One can use an oil immersion; in this case. however, it is necessary to diminish the aperture of the objective by inserting a truncated cone back of the front lens of the objective. This cuts out the diverging rays of light, which otherwise would flood the field. For diagnostic purposes we have seldom found it necessary to use the oil immersion.

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[3] E. Finger: Personal communication.

METHOD OF OBTAINING THE MATERIAL.

For chancres, mucous patches and condylomata it is sufficient to clean the lesions thoroughly with warm water. They are then irritated by being rubbed vigorously with a piece of cotton wrapped on a probe. This causes an abundant exudation of serum. A small drop of this is placed on a cover-glass, which is now carefully inverted onto the slide as in making a fresh blood preparation. It is well not to have much admixture of blood, as the blood cells interfere somewhat with the observation. For cutaneous lesions one may take a drop of blood from the lesions and often find the organism. The best method, however, is to scarify the lesion down to the papillary layer and then apply a small cupping glass. The abundant exudate of serum usually contains numerous spirochetes.

On looking at a specimen containing serum from a chancre one sees numerous small, round luminous bodies which have a very active Brownian movement. These particles of albumin are probably identical with the blood-dust of Müller. If the cleansing has not been thorough, one often sees various forms of bacteria, the cocci looking like pearls. The leucocytes are seen as a mass of white granules surrounding the dark nucleus, the various forms being easily differentiated. One often sees the ameboid movement and the granules in an active Brownian motion. The red corpuscles show as a luminous ring surrounding a central pale reddish zone.

CHARACTERISTIC FEATURES OF THE SPIROCHETES.

The spirochetes are typical, much more so than in the stained specimen, and are exact duplicates of those stained by the Levaditi method. The most characteristic features are:

1. *Size:*—They vary in length from 7 to 21 microns, being from 1 to 3 times the diameter of a red blood cell. It is not uncommon to see the organism longer than this, but on account of the difference in the motions of the two extremities, we believe these long forms are composed of two or more individuals.

2. *Shape:*—They are seen to consist of an extremely slender thread closely wound in a corkscrew or spring form, the windings being very acute. In the fresh specimen the windings are absolutely regular, but as the specimen gets older the organism changes form, the most frequent change being an obliteration or irregularity of the windings in the central portion. This is a very common appearance in the stained preparations.

3. *The Ends:*—These are sharp and terminate on the periphery of the spiral and not in the center, as the *Spirochæta buccalis* and some of the other forms do. This peculiarity of the ends is only seen when the organism rotates on its long axis

4. *Motility:*—When the specimen is freshly prepared the organism is very active and possesses the following motions: (a) A rotation on its long axis in either direction; this motion is very rapid but not necessarily accompanied by a change of position; as the specimen gets older this motion grows less. (b) It progresses from place to place but not so rapidly as the other forms of spirochete commonly met. (c) They have a bending or twisting motion which is quite quick and spasmodic. This form of movement increases as the specimen gets old and at times one sees an organism bent in the form of a circle, resembling somewhat a crenated red blood corpuscle. It is not uncommon to find two organisms joined end to end. In fact this arrangement is so common that it lends some weight to the view that the organism multiplies by fission. Again, one sees two or three organisms lying side by side. We have never found the spirochete in a red or white blood corpuscle as described and pictured by some observers in the stained specimen, and we are inclined to believe such appearances are artifacts.

The number of organisms found varies in the different lesions. They are most numerous in chancres, condylomata and mucous patches and vary from two or three in a field to sixty or eighty. Cases that have received some treatment show fewer organisms than the untreated ones. A few days local treatment with calomel or other mercurial preparations causes a marked diminution in the number present in the chancre, although they are very numerous in the enlarged inguinal glands. Among the cutaneous lesions, aside from the condylomata and mucous patches, the ulcerative syphilides show the most organisms. As a general rule, one may say that the more succulent the lesion the more numerous are the organisms.

In several patients having large placques on the tonsils we found the sputum teeming with the organisms, and in these specimens one can study the differences bebetween the *Spirochæta pallida* and the *S. buccalis* and *S. dentium*. We have never been able to convince ourselves of the presence of cilia or of an undulatory membrane, although there are times when one is suspicious that the latter might be present.

The organism when fresh is very active, but in about three-quarters to one hour after preparing the slide the movements become spasmodic and much less frequent and malformations occur. We have kept the organisms at the room temperature for two weeks or more, but at the end of that time one could not say whether or not they were alive, they certainly were not motile and had not multiplied. In capillary tubes we have had the organisms remain alive and motile for twelve hours at the room temperature.

The *Spirochæta pallidæ* as seen by this method, after some experience, are not difficult to differentiate from other organisms. The older the specimen the more difficult it is. The fresh specimen is very typical, and by close study of the size, windings and movements can be differentiated from other forms. The thread is much thinner, the windings more acute and the motility, as to locomotion, less than the other forms met. We have often seen a very much thinner and shorter body, that seems to have an extremely rapid rotary motion, which gives it the appearance of having a spiral form with knobbed ends. Its bending motion is marked but its locomotion is poor. These bodies vary greatly in size and are very common. As to their identity and significance we are unable to make any statement. We have found them in both syphilitic and non-syphilitic lesions.

LESIONS EXAMINED.

We have examined 160 lesions in 139 cases for spirochetes. The material was obtained from Dr. W. A. Pusey's service at the County Hospital, Dr. W. L. Baum's clinic at the Post-Graduate Medical School and from our private practice. Of the 139 cases 76 were clinically syphilis, in 59 of which we found the spirochete. (See Table 1). The lesions examined were as follows:

Chancres, 23; spirochetes were present in all.
Flat condylomata, 21; spirochetes present in all.
Mucous patches, 19; spirochetes present in all.

Cutaneous syphilides of various sorts, 33, in only 16 of which were we able to find the spirochete.

We found the spirochetes in two cases in which we punctured the enlarged inguinal glands.

TABLE 1.

No.	Case.	Lesion examined.	Result.	Remarks.
1.	M. L.	Chancre finger	+++	
2.	A. M.	Chancre lip	+++	
3.	F. V.	Chancre penis	+++	Excision.
4.	J. W.	Chancre penis	++	
5.	J. W.	Condyloma	+++	
6.	J. W.	Mucous patch	++	
7.	E. B.	Chancre penis	+	Calomel locally.
8.	E. B.	Inguinal glanis	+++	
9.	H. J.	Chancre penis	+++	
10.	C. A.	Chancre penis	+++	
11.	L. M.	Chancre penis	++	
12.	O. E.	Chancrous erosion ..	+++	
13.	F. S.	Chancre penis	+++++	
14.	P. G.	Chancre penis	+++	
15.	G. R.	Chancre lip	++++	
16.	T. S.	Chancre penis	++	
17.	S. C.	Chancre penis	++	
18.	J. F.	Chancre penis	++++	Excision.
19.	M. R.	Chancre penis	+++	
20.	R. D.	Chancre penis	++++	
21.	R. D.	Condyloma	+++	
22.	J. G.	Chancre penis	+++	
23.	J. G.	Papule	++	Ulc. pap. (scalp).
24.	Q. U.	Chancre penis	++++	
25.	Q. U.	Ulcerated papule ...	+++	
26.	Q. U.	Inguinal glands	+++	
27.	J. T.	Chancre penis	++	4 days loc. and int. treatment.
28.	T. B.	Chancre penis	+	
29.	T. T.	Chancre penis	+++	
30.	A. G.	Chancre penis	+++	
31.	M. P.	Condyloma	+++	
32.	J. G.	Condyloma	++	
33.	J. G.	Ulcer. papule trunk..	++	
34.	T. K.	Condyloma	+++	
35.	F. M.	Condyloma	+++	
36.	M. P.	Condyloma	+++	
37.	M. P.	Tonsillar patch	+++	Many spir. in sputum.
38.	P. G.	Condyloma	+++	
39.	F. E.	Condyloma	+++	
40.	T. M.	Condyloma	+++	5-9-'08.
41.	T. M.	Mucous patch	++	7-25-'08.
42.	G. R.	Condyloma	++	
43.	N. S.	Condyloma	+++	
44.	E. K.	Condyloma (anal) ..	+++	
45.	E. K.	Condyloma (toe) ...	+++	
46.	H. H.	Condyloma	+++	
47.	P. S.	Condyloma (anal) ..	+++	
48.	P. S.	Condyloma (toe) ...	+++	
49.	P. S.	Mucous patch	+++	
50.	P. S.	Pustule	++	
51.	R. P.	Condyloma	+++	
52.	R. P.	Mucous patch	+++	
53.	M. C.	Condyloma	+++	
54.	M. C.	Mucous patch	+++	
55.	J. H.	Condyloma	+++	
56.	J. H.	Mucous patch	++	
57.	J. H.	Papule	++	Non-ulcerated.
58.	A. S.	Condyloma	+++	
59.	K. R.	Mucous patch	++	
60.	K. R.	Papule	++	Ulcerated.
61.	A. F.	Mucous patch	++	
62.	G. H.	Mucous patch	+++	
63.	B. C.	Mucous patch	+++	
64.	H. M.	Mucous patch	++	Cerebral syphilis.
65.	S. Q.	Tonsillar patch	++++	Spir. in saliva.
66.	R. M.	Mucous patch	+	10 inunctions.
67.	R. M.	Papule (scalp)	+	Ulcerated.
68.	J. M.	Mucous patch	+	2 weeks treatment.
69.	S. K.	Mucous patch	++	Syphilis, 1½ years duration.
70.	E. H.	Mucous patch	++	Syphilis, 3 years duration.
71.	G. C.	Mucous patch	+++	
72.	G. C.	Papule	+	Non-ulcerated.
73.	G. O'D.	Mucous patch	++	Syphilis, 1 year duration.
74.	F. M.	Papule	+++	Non-ulcerated.
75.	B. K.	Serum (vesicle)	++	Congenital syphilis.
76.	M. B.	Papule	++	Non-ulcerated.
77.	E. R.	Papule	+	Non-ulcerated syph., 1½ years.
78.	R. S.	Blood from macule..	++	No primary lesion.
79.	N. O.	Papule labium	++	Non-ulcerated.
80.	N. O.	Papule (forehead) ..	+	Non-ulcerated.
81.	J. P.	Papule	++	Non-ulcerated.

Plus marks indicate the relative number of organisms present.

It will be observed that the organisms were always found in chancres, mucous patches and condylomata. The seventeen cases in which we failed to find the organism were mostly cutaneous lesions (see Table 2), most of which were late forms and many had been on antisyphilitic treatment. As we now know that all foci of syphilitic inflammation contain the spirochetes, we believe our failure to find them in these seventeen cases was due to a faulty technic. At first we scarified the lesion and examined some of the serum and blood so obtained. This method not proving very successful, we tried to get serum by applying a minute cantharides plaster over the center of the lesion. This method was somewhat more successful but still not all that could be desired. Recently we have returned to the scarification, but in addition we use a cupping glass as described above. This method affords an abundant exudate of serum, which often contains numerous spirochetes. We have no doubt that if we had used this method in our earlier cases we should have found the organism in practically all of the cutaneous lesions.

TABLE 2.

No.	Case.	Lesion examined.	Result.	Remarks.
1.	D. S.	Tubercular syphilide ...	Neg.	One examination.
2.	S. S.	Tubercular syphilide ...	Neg.	9 mos. duration.
3.	G. N.	Lichen syphiliticus	Neg.	
4.	M. C.	Lichen syphiliticus	Neg.	
5.	J. M.	Tubercular syphilide ...	Neg.	Of palm, 6 mos. treatment.
6.	W. B.	Mucous patch	Neg.	One examination.
7.	E. B.	Mucous patch	Neg.	Treatment.
8.	L. T	Tubercular syphilide ...	Neg.	Treatment.
9.	L. B.	Tubercular syphilide ...	Neg.	Treatment.
10.	D. N.	Tubercular syphilide ...	Neg.	Treatment.
11.	J. F.	Tubercular syphilide ...	Neg.	Treatment.
12.	N. J.	Papule	Neg.	Treatment.
13.	J. J.	Gumma of ankle.......	Neg.	
14.	H. H.	Gumma of buttock......	Neg.	
15.	M. B.	Gumma of palate......	Neg.	
16.	B. L.	Gumma of palate.......	Neg.	
17.	O. P	Tubercular syphilide ...	Neg.	Treatment.

VALUE OF EARLY DIAGNOSIS.

Among the syphilitic cases are several which are especially interesting. Number 18, Table 1, shows the great practical value of this method in the diagnosis of primary lesions. It was that of a married man who presented himself with two ulcers, the largest less than 1 cm. in diameter, on the foreskin, of five days' duration. There was slight inguinal adenopathy on the left side. Instead of waiting six weeks or two months to see if secondaries developed, we examined some of the serum from the ulcers and found it teeming with spirochetes. The chancres were excised and the patient immediately put on anti-syphilitic treatment. The wounds healed by primary intention and there have been no signs or symptoms of the disease since.

This line of procedure might give rise to some criticism, in answer to which we would say that this seemingly radical treatment was not undertaken with the hope that we could certainly prevent the systemic invasion, for, although we had no evidence of such dissemination having taken place (the inguinal glands being so small as to make it questionable as to whether they were infected), we believe that a logical therapy would indicate the removal of the known source of absorption and the institution of immediate treatment would destroy any organisms which had progressed beyond the local focus. At least after demonstrating the ulcers to be syphilitic, this procedure might possibly prevent a dissemination and certainly would prevent from six to eight weeks intoxication and limit the dissemination of the virus. This line of treatment was particularly valuable in this case, as the patient soon ceased to be a source of danger to his family. (See also case No. 3).

After the primary sore has been found to contain the *Spirochæta pallida* by a competent observer we believe excision, when possible, and when not possible deep cauterization, and in either case the immediate institution of anti-syphilitic medication is the proper and logical treatment. Nisser[4] in recording some animal experiments along this line advocates the excision treatment when possible. It is possible in almost all cases except those in which the initial lesion is on the lip, finger or glans penis.

It is just here that this method of demonstrating the organism of syphilis will find its greatest usefulness, for we will no longer be compelled to make use of what Jullien has called a "scientific monstrosity" and wait until the system is saturated with a virus before commencing treatment. Who can say what effect the institution of a logical therapy, commenced early in syphilis, may have on the development of the so-called parasyphilides? Is it going too far to predict that when this line of treatment becomes general, cases of tabes and paretic dementia will become medical curiosities and the incidence of cardio-vascular disease will be greatly lessened? In fact is it not possible that all those diseases in which syphilis plays an etiologic rôle will become less frequent?

Although the greatest value of this method of demonstrating the *Spirochæta pallida* is in the diagnosis of chancres, it is also of immense value in controlling our cases while under treatment. It is a common thing for a case of syphilis, while under treatment, to develop a lesion on some part of the body, most commonly in the mouth, and it is extremely important to know whether such a lesion is syphilitic or not. *Adequate anti-syphilitic treatment presupposes the absence of all syphilitic lesions.* A case in point is the following: A man (Case 69, Table 1), whose infection was of 1½ years' duration, had received a course of inunctions, a course of injections and also a course of protoiodid pills. Three weeks after ending his course of pills he presented himself with what he called a "cold sore" on the lip. Examination of serum from this innocent looking sore showed numerous *Spirochætæ pallidæ.* Without this examination one might have thought that the lesion was in reality a "cold sore" or a mercurial ulcer, when it was in fact a mucous patch and instead of the patient receiving too much mercury he was not getting enough. Cases Nos. 70, 73 and 77 were similar ones, all of which had been on treatment for from one to three years, and in spite of this we were able to demonstrate the spirochetes in the mouth lesions. We could cite numerous other cases showing the great practical value of the spirochete as an aid to diagnosis and treatment, but they will form the subject of a future communication.

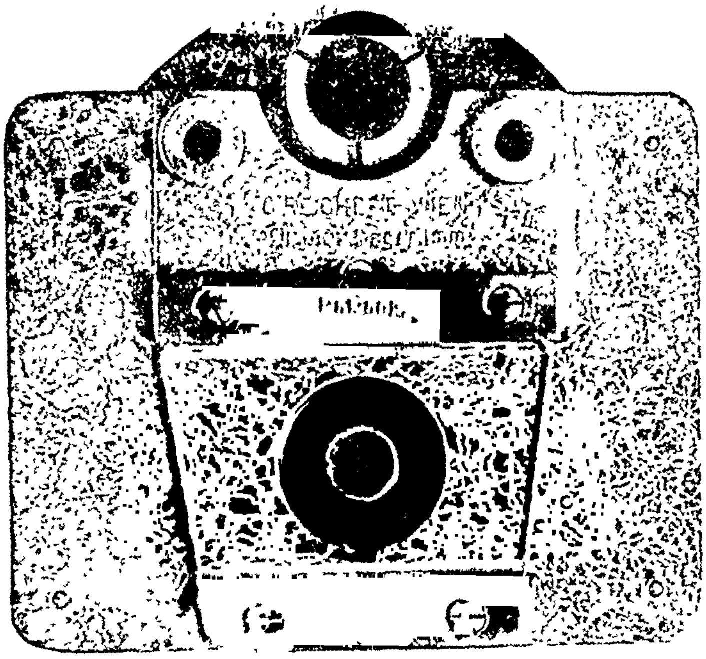

Fig. 1.—The Reichert apparatus for "dark-ground" illumination; to be attached to the microscope stage.

NON-SYPHILITIC CASES EXAMINED.

Among the non-syphilitic cases examined were: Thirty-six chancroids; 2 cases of traumatic ulcer of the penis; 1 case of carcinoma of the rectum; 4 cases of mercurial stomatitis; 2 cases of catarrhal stomatitis; 1 case of rodent ulcer; 3 cases of balanitis circinata; 1 case of chronic connective tissue hyperplasia of the vulva; 2 cases of exudative erythema with lesions of the buccal mucous membrane; 2 cases of herpes labialis; 1 cases of herpes zoster; 1 case of pemphigus vulgaris; 1 case of dermatitis; 1 case of erythrodermia; 1 case of blastomycosis; 1 case of elephantiasis of foreskin; 2 cases of psoriasis. In all of these cases the spiorchetes were absent, although clinically many of them were suspicious of syphilis.

In the case of chancroids a negative finding does not exclude syphilis, for the reason that the period of incubation of the chancre might not have passed. Most of the hospital cases of chancroids we were unable to follow, none of our private cases ever showed any manifestations of syphilis.

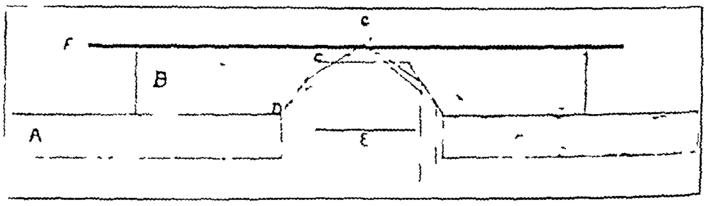

Fig. 2.—Diagram showing the principle of the "dark-ground" illuminator. A, metallic plate; B, glass plate; C, D, silvered sides of aperture in glass plate; E, diagram; F, microscope slide; G, objective.

There has been a great deal of discussion as to the spirochetal nature of the objects obtained by the Levaditi method of staining. A comparison of the living organism with those obtained by the Levaditi method will show that they are identical and immediately disposes of the suggestions that the Levaditi organisms are artifacts, nerve fibrillæ, cell borders, etc. That this method of finding the organisms is a great advance over all staining methods will be readily appreciated by all who have made the long, tiresome search with the old methods. Also the spirochetes are so much more characteristic that the differentiation is not at all difficult.

We have made some agglutination experiments, but as yet have not obtained the same results as Zabolotny,[5] who has reported the agglutination and disintegration of the spirochete with syphilitic serum. We hope to be able to report more definite results along this line.

CONCLUSIONS.

As a result of our investigations we believe we can draw the following conclusions:

1. The *Spirochæta pallida* is the true cause of syphilis and its presence is equivalent to the diagnosis of syphilis. Its absence does not rule out syphilis.
2. The silver spirochetes are true organisms.
3. By means of this method the spirochete may be demonstrated in all primary and secondary lesions of syphilis, if the search is persistent.

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[4] Die experimentelle Syphilis-Forschung nach ihrem gegenwärtigen Stande, Berlin, 1906.

[5] Russk. Vrach., 1907, No. 6.

4. *After demonstrating the organism in a primary lesion it is not only unnecessary but harmful to wait for secondary manifestations. The most logical therapy is excision of the chancre when possible, and in all cases the immediate institution of the vigorous antisyphilitic treatment.*

In conclusion we wish to call attention to the great value of the dark ground illuminator for the demonstration of the *Spirochæta pallida* and to emphasize the necessity and value of the demonstration of the spirochete in the diagnosis and treatment of syphilis where there are accessible lesions. In suspected cases with no lesions and in cases in which there are cutaneous lesions, in which we fail to find the spirochete, we have found the Wassermann serum diagnosis of great value. As it is, these two procedures practically give us control of the diagnosis of syphilis, and it is to be hoped that the near future will give us a reliable method of detecting syphilitic antigen and thus furnish us with an absolute method of saying when the disease is cured.

Room 407, 103 Randolph Street.

CEREBELLAR SYMPTOMS IN HYDROCEPHALUS;

WITH A PATHOLOGIC REPORT OF A CASE ASSOCIATED WITH SYRINGOMYELIA.[*]

JOHN H. W. RHEIN, M.D.
Neurologist to the Howard Hospital; Physician to the Philadelphia Home for Incurables.
PHILADELPHIA.

Cases of hydrocephalus exhibiting cerebellar symptoms, while not very rare, have been recorded in the literature with sufficient infrequency to warrant a report. The case to be reported is of still further interest on account of the probable cause of the cerebellar symptoms, which, if not unusual, has been infrequently described. The presence of a well-marked syringomyelia, which was not suspected during life owing to the absence of at least some of the characteristic clinical manifestations, is of additional interest.

History.—J. G., a boy, 8 years old, was admitted to the Howard Hospital, Jan. 8, 1908. The patient first applied to the dispensary of the Howard Hospital Nov. 2, 1905. The previous history was entirely negative. Ten days before his first visit he began to have headaches, associated with vomiting, which occurred before breakfast, although at other times during the day as well. He also complained of frontal headaches. The physical examination at that time showed that the head was enlarged. Examination of the eyes by Dr. William Campbell Posey was negative. Shortly after this there developed a spastic gait, but otherwise nothing of importance was noted until two years later, Nov. 29, 1907, when the child returned again to the clinic with a history of vomiting, attacks of frontal headache and general tremor. Station was poor, and the knee jerks were increased. There was a history of a general convulsion three years previously, and of several attacks, in which the patient fell, during the past year.

Examination.—He was admitted to the wards of the Howard Hospital on Jan. 8, 1908, when his condition was as follows: There was a coarse, irregular tremor of both hands on voluntary effort. The eyes were prominent, and the palpebral fissures unusually wide, showing the cornea above the pupil. The tongue was protruded straight, and there was no facial palsy. There was no stiffness of the neck, nor apparent tenderness in that region. There was a coarse, irregular tremor of both legs. The knee jerks were increased, and equally so. There was no ankle clonus, but the Babinski phenomenon was present on the left side. Kernig's sign was also present. The pain sense was generally preserved. Unfortunately a test for the other forms of sensation was not made, and the need of it was not specially indicated, for the patient did not give any history of burning himself without being conscious of it until afterward, a sign so characteristic of the early stages of syringomyelia. Moreover, there were no local atrophies to attract attention to the possibility of the existence of syringomyelia. The patient staggered when walking, and seemed to be weaker in the left leg than in the right. The sphincters of the bladder and rectum were incontinent.

Jan. 12, 1908, the headache was very severe; the head was retracted and the neck stiff. Any movement of the head increased the pain, which appeared to be general. At this time the knee jerks were slightly diminished, and there was a tendency to fall to the left, with the feet together and the eyes closed.

The patient died suddenly.

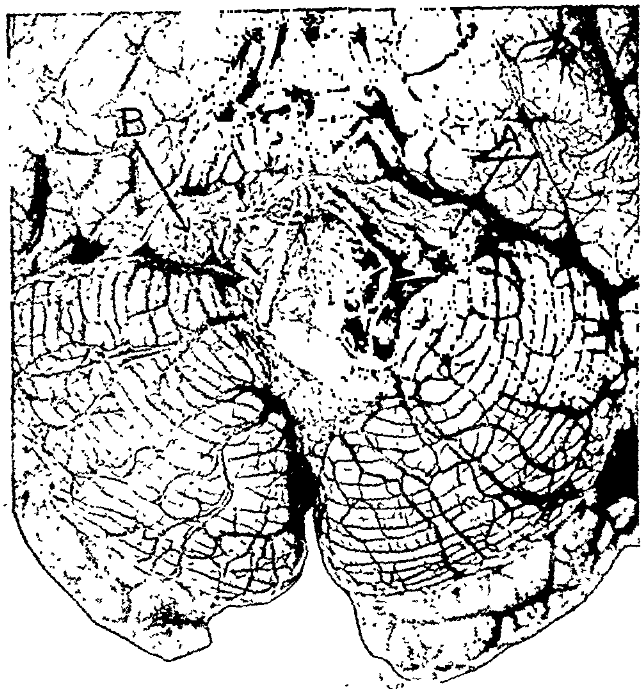

Fig. 1.—View of the hydrocephalic brain, showing two cysts, A and B.

Autopsy.—When the brain was removed, 6 to 8 ounces of cerebrospinal fluid escaped, and the very much distended brain collapsed to a certain extent. What appeared to be two cysts were observed at the cerebello-pontile angles (Fig. 1, A and B), the one on the left being the larger. These were distended with fluid, which escaped when the brain was removed.

The brain was placed in formalin, and the spinal cord in Müller's fluid. The entire cord was divided up into 23 approximately equal portions, and sections from half of these were stained by the Weigert method and by hematoxylin and acid fuchsin.

Cord: The spinal cord was the seat of a syringomyelia which extended from the eighth thoracic to about the second cervical segment.

At the second cervical segment there was a small cavity to the right of the central fissure. There was slight degeneration of the posterior columns, and the left crossed pyramidal tract.

In the fourth cervical segment the same condition was observed, and here also there was a slight dilatation of the central canal. In both posterior horns an area of loose tissue was observed in which were found several spider cells.

At the sixth cervical segment the central canal was very much distended. There was slight degeneration of the left crossed pyramidal tract. At this level there was a cavity in the right posterior horn, and in the wall of this cavity spider cells were seen.

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[*] From the Howard Hospital and Department of Neurology and Laboratory of Neuropathology of the University of Pennsylvania.

[*] Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

In the eighth cervical segment the central canal was very much dilated and hour-glass shaped, occupying a large part of the posterior column. There was a large cavity in the right posterior horn and a small one in the left posterior horn. On the right side there was hemorrhage into the tissue of the wall of the cavity. The left crossed pyramidal tract was degenerated. At the second thoracic segment the central canal was large and round, and there was still a small cavity in the right posterior horn. Very slight degeneration of the left crossed pyramidal tract was observed. Both posterior horns were the seat of loose tissue, presenting the same characteristics as the levels above described.

In the third thoracic segment the central canal was irregular in shape, extending into the right posterior horn, and occupying a large part of the posterior columns on both sides of the median line. The degenerative process, present in the left horn, extended, at this level, into the anterior horn, and was less marked than in the levels above. In the fifth thoracic segment the right posterior horn was almost entirely destroyed by the cavity, and also part of the anterior horn, and the dilated central canal occupied the posterior part of the left horn.

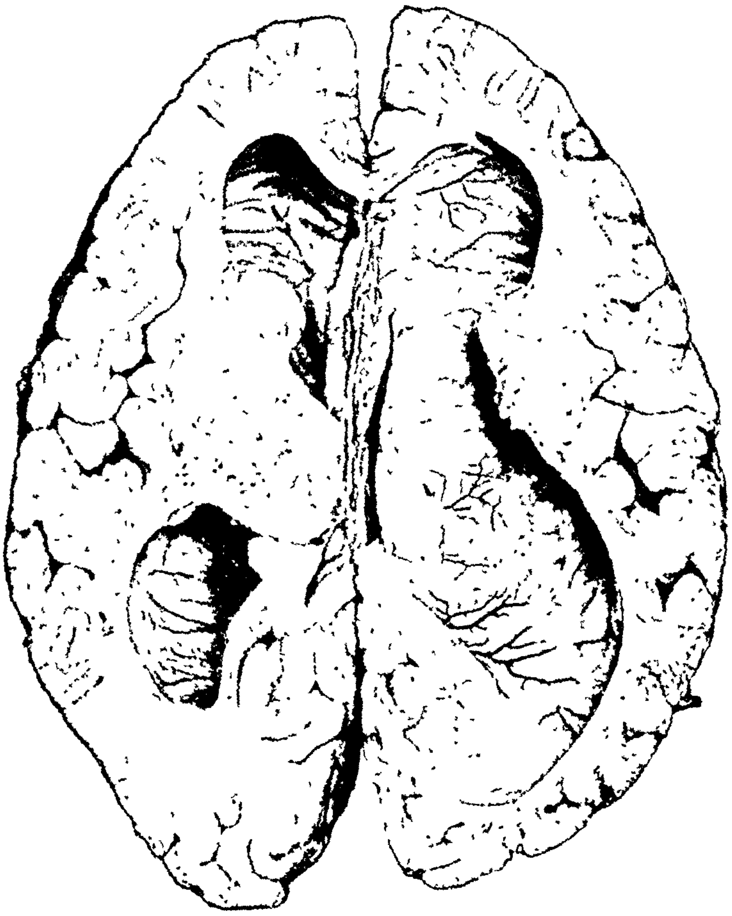

Fig. 2.—Cross section of the hydrocephalic brain showing distension of the lateral ventricles.

At the eighth thoracic segment there was a small cavity in the left posterior horn. At the ninth thoracic segment the cavity disappeared, and the central canal was not materially distended. There was no trace of degenerated tissue in the horns. At the segments below this level nothing abnormal was observed.

At the decussation the medulla appeared to be normal, except for some central loose tissue, probably of gliomatous nature. The ganglion cells of the anterior horns in the thoracic and lumber regions, stained by thionin, appeared to be normal.

Brain: Both lateral ventricles were very much distended (Fig. 2). The third ventricle was also greatly distended, pushing the tissues of the interpeduncular space downward. The aqueduct of Sylvius was very much distended, as well as the fourth ventricle (Fig. 3, C), especially the cerebellar portion.

The lateral processes of the fourth ventricle, and this is to be especially noted, were very much dilated (Fig. 3, A and B), and were continuous on each side with the cysts situated at the cerebello-pontile angles. That is to say, the portions of these recesses which came in contact with the subarachnoid space were not closed in as usual. The cerebrospinal fluid had apparently forced the arachnoid and pia out in such a way as to give the appearance of a cerebellar cyst on each side. The foramina of Magendie and Luschka could not be found.

Microscopically the ependyma of the lateral ventricles was not abnormal. The wall of the cyst on one side consisted of a pia-like structure, somewhat thicker, however, than the normal pia.

SUMMARY.

A boy of 8 presented the characteristic symptoms of cerebellar disease, slightly more marked on the left side. At autopsy a hydrocephalus was found, involving all the ventricles of the brain, distending the lateral recesses of the fourth ventricle and causing cysts at both cerebello-pontile angles. There was associated with this a syringomyelia which did not cause the characteristic symptoms during life.

It is not unusual for the symptoms of syringomyelia in children to be absent, even when well-marked cavity formation is present. This is illustrated in the case reported by Bullard and Thomas,[1] as well as by my own. Bullard and Thomas' patient, a boy 6½ years old, presented the symptoms of cerebellar lesion, and later there developed paraplegia and incontinence of urine and feces. The autopsy revealed the presence of hydrocephalus and syringomyelia, the latter not having been suspected during life.

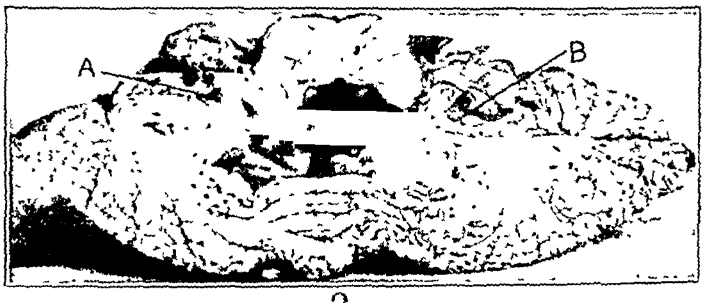

Fig. 3.—Showing, A and B, distended lateral recess of the fourth ventricle; C, distended fourth ventricle.

In cases of hydrocephalus the possible presence of syringomyelia should always be recognized, even when the usual symptoms of the latter are lacking.

The occurrence of cerebellar symptoms in cases of hydrocephalus is well known. Spiller,[2] in 1902, reported a case of hydrocephalus with symptoms suggesting cerebellar tumor and expressed the view that the possibility of internal hydrocephalus should always be borne in mind when tumor of this portion of the brain is suspected. He cited the cases of Bramwell,[3] in which the cerebellar symptoms were apparently due to hydrocephalus.

Since then Finkelburg[4] reported a case in which cerebellar symptoms were associated with moderate dilatation of all the ventricles. He stated that cerebellar gait occurred in chronic hydrocephalus, as well as with tumors of the central ganglia, as an early symptom. He believed that normal or lowered tendon reflexes are not against a chronic hydrocephalus. Circumscribed tenderness to pressure or blows on the cranium is found in chronic hydrocephalus, and has, therefore, no diagnostic value.

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[1] Am. Jour. Med. Sc., 1899, cxvii, 265.
[2] Am. Jour. Med. Sc., 1902, cxxiv, 44.
[3] Brain, 1899, xxii, 66
[4] Deutsche. Ztschr. f. Nervenheilk., 1905, No. 29, p. 135.

Schmidt[5] suggested a symptom which he claimed was of great diagnostic significance in deciding between hydrocephalus and cerebellar tumor. It consists of the appearance of vomiting and vertigo if the patient lies on the side opposite to a tumor. He reported two cases of cerebellar tumor in which the patients would constantly lie on the side of the tumor, and concluded from this that the pressure from the tumor on the aqueduct of Sylvius, if the patient would lie on the opposite side, caused closure of this aqueduct, and hence an increase in intracranial pressure. Finkelburg does not subscribe to this view, as he believed that these symptoms are found in other localized tumors of the brain. Schmidt believes that the Westphal phenomenon points to a tumor rather than to an idiopathic hydrocephalus.

The cause of cerebellar symptoms in hydrocephalus is difficult to explain in all cases. I believe that the increased intracranial pressure in my case, which was exerted more particularly on the cerebellum at the localities at which the cysts were found, explains the presence of these symptoms in this case and may have had something to do with the slight predominence of the symptoms on the left side, as the cyst on this side apparently had compressed the left lobe of the cerebellum. When the fourth ventricle, however, is not enlarged, and the intracranial pressure is not, therefore, high in the neighborhood of the cerebellum, this explanation is not sufficient. It must be due to another cause—probably the weight of the hydrocephalic brain on the cerebellum.

Descriptions of cysts, such as those in my case, have not appeared frequently in the literature. Scholz[6] divides cysts of the cerebellum into seven groups, i. e., (1) cysts similar to those in my case, which will be discussed later; (2) cysts accompanying new growths; (3) simple, or serous, cysts; (4) blood cysts, that is, apoplexies; (5) cysts from pressure or embolism; (6) dermoid cysts; (7) parasitic cysts. He quotes the case of Virchow, in which there was a cystic distension of the diverticulum of the fourth ventricle, and quotes a similar case by Clarus.

In Virchow's case[7] there was a partial dilatation of the fourth ventricle, which extended laterally, and sent out prolongations on each side, between the cord and the cerebellum, at which angle a cherry-sized cyst was found, compressing the facial nerve. He spoke of it as a hydrocele of the fourth ventricle.

This case undoubtedly is similar to mine, as was also the one described by v. Recklinghausen,[8] in which a bilateral cyst which communicated with the dilated fourth ventricle was found. An opening three millimeters in length was found behind the lateral angle of the floor of the fourth ventricle, leading directly into the sac on either side. The lateral ventricles were moderately distended and the ependyma was thickened. The wall of this cyst was somewhat thicker than the pia of the pons, which was continuous with the wall of the cyst.

J. Bland Sutton[9] cited the cases of Virchow and v. Recklinghausen, and calls attention to the origin of such cysts. He noted particularly that the cavity of the fourth ventricle is extended laterally by two tubular prolongations, or lateral recesses, which open into the subarachnoid space on each side. Key and Retzius were the first to call attention to this, and Sutton refers to the result of obstruction of these recesses, i. e., dilatations of the obstructed passages and the production of cysts.

Other than these brief reports, I am unable to find any reference to this condition in the literature. I believe, however, that these apparent cysts may readily be overlooked, as they are apt to collapse when the cerebrospinal fluid escapes at the time of the autopsy.

The cause of the cysts in my case I believe to be, probably, the closure of the foramina of Majendie and Luschka, which caused an accumulation of cerebrospinal fluid in the ventricles of the brain, and, as a result, the pia arachnoid covering the free borders of the lateral recesses of the fourth ventricle as well as the recesses themselves was distended by the excess of cerebrospinal fluid in the form of a cyst on each side.

The association of syringomyelia and hydrocephalus has been noted a number of times in the literature. Schlesinger[10] cites a number of such instances, and Hinsdale, in 150 cases of syringomyelia collected from the literature, found fifteen cases of hydrocephalus. Schlesinger looks on the significance of this process in syringomyelia as two-fold. He believes that it explains in some cases the general brain symptoms of paralysis of the cranial nerves, which are frequently attributed to syringomyelia; and that the existing hydrocephalus causes sudden death in not a few cases of syringomyelia by reason of an exacerbation of the process.

I wish to thank Dr. F. Jacobs for the opportunity of reporting this case.

1732 Pine Street.

ABSTRACT OF DISCUSSION.

Dr. Arthur W. Fairbanks, Boston: The occurrence of cerebellar symptoms in cases of hydrocephalus is not so very uncommon. Few such cases have, however, been reported. In such a case we have to consider whether such symptoms are the effect of the hydrocephalus or merely phenomena of a pathologic process, of which the hydrocephalus itself is merely one phenomenon. We are usually aided in deciding this point by the fact that in the first instance these cerebellar phenomena occur after the hydrocephalus has been existent some time, while in the second instance these phenomena either antedate the hydrocephalus or occur early in its course before its symptoms have become extremely marked. When secondary to hydrocephalus, cerebellar symptoms are due to the profound disturbances produced by the effect of greatly increased intracranial pressure on the functional activity of the cerebellum, the cerebello-pontile, and the cerebello-cerebral tracts, and the pons. This disturbance is in part due to effect of direct pressure, in part to circulatory disturbances secondary to the pressure, and ultimately to secondary degeneration of these tracts and cells, produced by long-continued high intracranial pressure. The direct pressure of hydrocephalus may so press down the cerebellum that its inferior surface may be found deeply indented by the edge of the foramen magnum, and occasionally actually deformed by such pressure. When not secondary but merely an associated symptom, this cerebellar disturbance may be due to the same condition that is responsible for the hydrocephalus. The most common cause of such occurrence is a new growth of the cerebellum or pons, which by virtue of its location causes the phenomena of cerebello-pontile disease, and by mechanical obstruction of the aqueduct of Sylvius, the foramen of Majendie or the foramina of Luschka, or the venous return flow through the veins of Galen, produces also hydrocephalus, with all its characteristic phenomena, in one and the same case.

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[5] Schmidt's Jahrb. 1889, No. 263, p. 137.

[6] Mittheilung. a. d. Grenzgeb. d. Med. u. Chir., Jena, 1906, xvi, 745

[7] Path. des Tumeurs, 1867, p. 180.

[8] Virchow's Arch., 1864, No. 30.

[9] Brain, 1886, 1887, No. 9, p. 352.

[10] Die Syringomyelia, 1902, p. 383.

Under such circumstances the cerebellar phenomena are usually the initial symptoms. We must remember, however, that cerebellar phenomena are not so conspicuous in the infant as in the older child, whereas, owing to the elasticity of the cranium, enlargement of the head becomes early conspicuous. Therefore, the early occurrence of cerebellar phenomena with enlarging head, in an infant, should always arouse more suspicion of actual cerebellar or pontile disease than in a child whose cranium is rigid and unyielding, and, therefore, the sooner subject to the secondary results of increasing intracranial pressure produced by hydrocephalus. I have in mind several such cases in very young children. In one child in particular, in whom the trouble began before the closure of the fontanelle, and from whose cranial cavity I afterward removed an enormous tumor of the vermiform process, the ultimate cause of the hydrocephalus was overlooked by two or three able men, the slight cerebellar symptoms not having been noticed by them. The presence of optic neuritis is of much help in these cases in infancy, and when present almost always points to tumor at this period of life. In older children, however, optic neuritis, while always a suspicious sign, is not quite so surely evidence of tumor, for it is sometimes seen in primary hydrocephalus, though rarely. Optic atrophy, on the other hand, is common enough, both in primary hydrocephalus and in the late stages of tumor, and is therefore of no differential value. Hydrocephalus may occur with cerebellar symptoms in cases of general cerebello-cerebral or cerebello-spinal sclerosis and atrophy, as in certain cases of cerebellar ataxia. Interesting in connection is the occurrence, in Dr. Rhein's case, of syringomyelia. In a number of instances of cerebellar ataxia, cavities and defects in the spinal cord have been reported. At a previous meeting of this Section I showed some lantern slides of this condition. These cases are often associated with a defect in the gray matter of the cord in the region of Clarke's column, where originate the fibers of the direct cerebellar tract. In several of these cases a hydrocephalus was also present.

ERYTHEMA FIGURATUM PERSTANS.*

GROVER WILLIAM WENDE, M.D.
Clinical Professor of Dermatology, University of Buffalo.
BUFFALO, N. Y.

In 1905 I read a paper before the American Dermatological Association at New York City on "Erythema Perstans Involving Circinate Lesions," with reports of two cases. In that paper all varieties of persistent erythema were included, some of which had been described previously as special diseases, each having its own pronounced characteristics. In this paper I have eliminated all save one variety. This variety presents persistent erythematous patches, which assume annular, marginate and gyrate forms, differing essentially from other varieties of erythema. A new case is now reported with a brief review of similar cases found in the literature.

REPORT OF A CASE.

History.—Emily R., aged 16, well developed, was referred to me in July, 1906, on account of a peculiar skin eruption, covering the entire body, which had existed since birth. Her mother, father, older sister and younger brother were all healthy and strong; there was no history of syphilis, congenital or otherwise. The mother was not aware of the existence of a like skin condition in any member of the family on either side. This condition of the skin made its appearance soon after birth, commencing as an unusually red and scaly condition of the skin, which was very sensitive, smarting and burning when bathing. It had no apparent relation to infantile eczema. This condition continued until the patient was about five years old, when the inflamed surface began to show oval, red patches, which, disappearing, left rings and irregular figures, save where the skin was normal. The subjective sensations now began to increase. At first the eruption appeared and disappeared rapidly, and there were intervals when for short periods the body was quite clear. During the last two years it had never been entirely free from the eruption. The skin manifestations had existed only occasionally on the palms of the hands and the soles of the feet, in the form of a red spot which never became scaly and disappeared in a few days. Five years ago most of the lesions on the body were subject to a discharge, which ran its course in a few days, ending in the formation of a crust, which soon fell off, leaving a dark pigmentation. This complication, probably, was independent of the original condition. The patient stated that, after sitting, the clothing would adhere to the skin, caused by a discharge from the affected parts, accompanied by pain and burning, probably due to pressure. This condition would arise during walking, undoubtedly the result of chafing. The face often showed lesions of the same character as those on the body. About six years ago the mother noticed the gradual disappearance of the facial redness. This condition was followed by an entirely different manifestation, beginning on the middle portion of the face, which was represented by a number of small, hard, yellow lesions the size of a pin-head to a pea, which gradually increased in dimensions and number until all portions of the face were invaded. The patient stated that her bowels had never been regular; that pain often followed eating. At night she was annoyed by skin sensations and was often disturbed by dreams.

Examination (August 1, 1906).—The body was in excellent nutrition; internal organs apparently normal; urine normal. At a slight elevation above the level of the skin were erythematous lesions, circinate, annular, gyrate or distinctly serpiginous, discrete or confluent, occupying the back and front of the thorax. The abdomen, the arms to the wrists and the legs to the ankles were covered with these lesions; hands and feet were free. The scalp showed only a slight desquamation. The size of the single efflorescences varied in diameter from a quarter of an inch, or less, to three inches. A small lesion was often found at the periphery of a larger one. The single lesions had a well-defined outline, generally oval or oblong. The ring lesions were covered with scales, except at the sharply defined, hyperemic, free margin. The center was pigmented, varying according to the size and age of the lesions, and the surface was covered with the finest scales. The smaller-sized lesions showed a similar condition; they were on the level of the normal skin, and were of a bright red color, which disappeared on pressure; scales were found only on lesions that had attained the size of a large pea. No scratch-marks were present.

Further Course.—The old efflorescences followed their regular course. At the same time a new lesion appeared on the chest, which was kept under observation, and quickly developed to a quarter of an inch in diameter. This lesion was bright red, with a darker border. Forty-eight hours later, its size had increased to three-quarters of an inch, without change, except at the center, where it began to disappear. The patient complained of local soreness. On the face there was present a different lesion, consisting of yellow, slightly translucent, symmetrical papules, varying in size from a millet-seed to a pea, raised well above the surface, generally isolated, but, in rare instances, appearing in clusters; these were most numerous about the nose, and extended gradually over the cheeks in the direction of the ears. This condition agreed in all essential points with the picture of adenoma sebaceum, and was so diagnosed.

Treatment (Feb. 1, 1898).—Arsenic, thyroid extract and other remedies were tried during the past eighteen months, without benefit. X-ray treatment was kept up for about eight months, without favorable effect. The adenoma sebaceum was removed by electrolysis, with permanent relief. The patient, an intelligent girl, wrote me under the above date: "Th condition of the skin is just the same as it was when I consulted you, not showing the slightest degree of improvement." In June, 1907, she suffered from an attack of colitis, which so affected her general condition that she was obliged to stay out of school until the first of February, 1908.

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* Read in the Section on Cutaneous Medicine and Surgery of the American Medical Association, at the Fifty-ninth Annual Session, held in Chicago, June, 1908.

Histologic Examination.—For this a fragment of one of the circles was chosen. The excised lesion was red and smooth. The tissue was hardened in alcohol, cut in paraffin, and the usual stains employed. In the pars papillaris of the corium the most noticeable change was a well-marked infiltration of round plasma and connective tissue cells, especially located around the blood-vessels. There was a dilatation of the superficial capillaries and edema of the fibrous bundles, causing the almost complete disappearance of the papillary body. The infiltration extended to the subcutaneous tissue, without sharp limitation. The sebaceous and sweat glands appeared normal, although surrounded by round cell infiltration. The stratum Malpighii above the cellular infiltration showed no special changes, except that the basal layer was broken by the underlying edema with separation of the prickle cells, which were swollen in places; mitosis was also observed. Few leucocytes were found. The granular layer appeared almost normal. The stratum corneum showed a deficiency in cornification, although the scaliness must have been induced by the underlying edema. The cells adhered instead of normally desquamating. The clinical diagnosis of the face lesions as adenoma sebaceum was verified by microscopic examination. The lesions were entirely made up of sebaceous gland tissue, agreeing in the arrangement of cells with the normal gland; in the glandular arrangement, bi-, tri-, and even quadri-lobulation could be demonstrated; ducts could also be traced to the hair follicles.

General Condition.—There was nothing in the patient's general condition suggestive of a cause, except that intestinal disturbance was nearly always present. One can only speculate as to the possible relation of the two different skin conditions; structurally there was a distinct difference. It may be that both were due to errors of development, involving not alone the sebaceous glands but the whole skin.

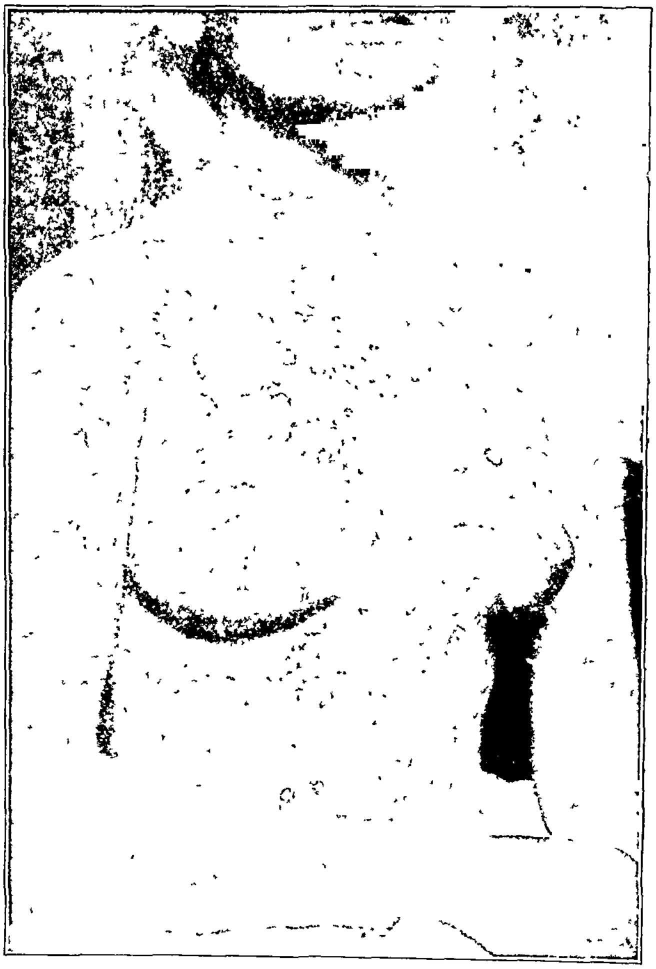
HISTORICAL CONSIDERATIONS.

Before presenting conclusions relating to this subject, I shall give an abstract of a number of cases, chiefly recorded in the English and American literature, as follows:

Bazin, Paris, in a text-book published in 1862, presented the view that certain rare forms of erythema may be of long duration, differing in configuration and lasting for months and years.

The two principal French dermatologic journals are comparatively free from descriptions of unusual forms of erythema resembling the one under consideration. There are many instances recorded in the *British Journal of Dermatology* of a variety of erythema perstans of the face and of the back of the hands, and often showing ring-shaped lesions in the regions usually invaded by lupus erythematosus. But I do not associate it with the class under discussion. Whether such cases in general represent an early stage of lupus erythematosus, or are distinct, it is difficult to determine, since certain of these cases are recorded as beginning with erythema perstans and ending as lupus erythematosus. For the purpose of close comparison, reference is made only to cases presenting a striking resemblance to my own, or to others more or less closely allied to it.

Fox[1] reports two cases of erythema gyratum perstans in the older members of a family who had the disease from early childhood. The condition began as papules, accompanied by intense itching, quickly extending, so that in a few hours a circular red area was noted, covered with scales, or, at times only, fringed at the border with conspicuous desquamation. The redness of the center soon subsided. The erythematous border was narrow and only slightly raised. The rings enlarged to the size of the palm of the hand, coalescing with other similar ones and forming gyrate, festooned figures. Both patients had recurrent outbreaks of this condition without fever. The skin was never absolutely free between attacks; usually about three severe outbreaks, with many minor ones, occurred in the course of a year. Fox associates the outbreaks with changes in temperature, as the disease was less intense during the winter. He had one patient under observation until he arrived at the age of 29, and considered the condition as unique. He stated that it reminded him of erythema multiforme, but did not really belong to that class. Various forms of treatment were used without favorable result.


Dr Wende's case of erythema figuratum perstans.

Lustgarten, under the title of "Erythema Papulosum vel Urticatum, Figuratum, Perstans et Chronicum,"[2] presented a case before the New York Dermatological Society. The patient was 21, and had been kicked by a horse fifty days previous to the oncoming of an eruption ushered in by intestinal disturbances. It first appeared on his body and gradually extended to the extremities. The lesions were annular and gyrated, with elevated borders, associated with pigmented skin. Weeks and months before they disappeared new patches were constantly added. Lustgarten considered the condition as a reflex neurosis of traumatic origin.

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[1] International Atlas of Rare Skin Diseases, 1891, Part V.

[2] Jour. Cutan Dis, vol. xi, p 110.

Finney,[3] under the title, "erythema marginatum perstans," records a case in a patient aged 21, whose general health was good, with the exception of indigestion, presenting an erythematous eruption made up of pinkish-red, elevated lesions, linear, curved, segmentary or erythematous areas occupying the unexposed portions of the body. The raised areas were pigmented and covered by the finest possible scales. The ring forms were non-scaly. The glands were enlarged. The disease varied according to temperature, being especially affected by cold. The eruption was itchy. The inception of the disease was accompanied by constitutional symptoms; during the further course of the skin manifestations there were no febrile disturbances. Finney regarded the case as a variety of erythema multiforme.

Arning[4] reported a case of erythema perstans pseudoleprosum which undoubtedly belongs to this class, although it involved a much slower process. The patient was a young woman who suffered from functional nervous conditions. The slowness of the development was remarkable, the lesions attaining only the size of a dollar in four months, being most pronounced at the border. The greater part of the anterior surface of the tibia was covered with a coalescent lesion. Its duration was over eight months. The patches also developed on other parts of the body. Arning said that the appearance of the lesion corresponded to the incipient stage of leprosy, but that the latter disease could be absolutely excluded.

Wende[5] reported two cases of erythema perstans presenting circinate lesions.

Case 1.—This was that of a blacksmith, aged 28, who enjoyed the best of health. The course of the disease covered four and a half years. The eruption varied, at times covering the entire body and at other times completely disappearing. Four fresh outbreaks occurred during a single year. The lesions varied in size from the diameter of a pea to three inches, and were of a violet-red color. In the larger lesions the edges were well formed and were made up of rings, or segments, resulting in gyrate or serpiginous figures of varying sizes, the largest reaching a diameter of four inches. The surface was faintly pigmented, rough, and covered with scales. The only remedy that appeared to influence the eruption was chrysarobin, externally applied, but the lesions promptly returned on its discontinuance.

Case 2.—The patient in this case was aged 38; the duration of the disease four months. The lesion began as a papule which sometimes extended peripherally, forming a patch the center of which gradually faded, leaving a circular or gyrate outline, varying in size from that of a papule to about six inches in diameter. The gyrate lesions were elevated at the border, slightly uneven, varying in color from a livid to a bright red, and gradually extending until they covered the greater portion of the body. The edge of the areas developed slowly. Itching was present at times, occasionally intense and limited to certain portions of the body. At times evanescent lesions, resembling urticaria, appeared. Treatment proved of little value. Histopathologically there was superficial inflammation, showing, in particular, dilatation of blood vessels, infiltration of cells and edema.

In a discussion following the report of Wende's cases before the American Dermatological Association, Fordyce reported two similar cases, illustrated by stereopticon views and photographs. One of the patients showed lesions limited to the back; in the other they were confined to the arms and thighs; the duration in one case was six months, in the other a year. Fordyce regarded the condition as dependent on a vasomotor paresis.

In the same discussion Schamberg showed a photograph of a case of four months' duration in a young man, described as persistent annular erythema of the thighs and arms, which had responded to treatment by chrysarobin.

Winfield also described a case which he considered erythema multiforme perstans,[6] showing erythematous patches varying in size, the largest several inches in diameter, and distinctly annular and raised. There were very few circinate lesions. The smaller ones were discoid.

Corlett, at the thirteenth annual meeting of the American Dermatological Association, June, 1906, showed a patient whose case he considered as one of erythema figuratum perstans. This case was remarkable, possessing many features characteristic of the disease under discussion. The patient was a girl, 21 years old, with peculiar linear and gyrate figures covering almost the entire body, which would fade and then recur. A feature in Corlett's case not observed in others was the occurrence of rings within rings, following the lines of evolution established by the first. The only other case showing the same peculiarity is that described by Adamson.

Adamson[7] mentions a case of ringed eruption before the Dermatological Society of London, that of a boy aged 5, otherwise in good health, and who had been under observation for nine months. The eruption consisted of symmetrical rings on the outside of the arms and thighs, from half an inch to three inches in diameter, which faded, then became more pronounced, and at times entirely disappeared. The rings began as red, slightly-raised, erythematous spots, which extended peripherally, fading in the center so that circinate bands were formed. "The outer half of the band—the advancing margin—remained smooth, red and slightly raised, while the inner half was scaly and desquamating." Adamson considered the eruption as a form of erythema multiforme exudativum.

In the discussion following Adamson's report Fox referred to his two well-known typical cases[8] occurring in a single family.

Adamson[9] has recorded another case of circinate eruption which had been diagnosed in India as "Dhobie itch." The disease had appeared nine years previously while the patient was acting as an army captain in India. Adamson described the condition as showing circinate lesions, varying in diameter from two to eight inches, with an outer advancing margin, slightly raised, pinkish, smooth and free from scales. Many of the lesions consisted of concentric rings. Itching was a feature. Ringworm was excluded. Adamson observed that there were many features which corresponded to an example of persistent circinate erythema occurring in a boy of 5, which he showed before the dermatologic section of the Royal Society of Medicine, and again at a subsequent meeting, fourteen months later, before the same society.[10] The doctor compared the case that occurred in his patient (the boy of 5) with the two cases recorded by Fox and the one reported by himself[9] relating to the army captain from India. The present case was under his observation for twelve months. The eruption disappeared either spontaneously or under the influence of salicin.

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[3] Med. Press, Jan. 21, 1903, p. 51.

[4] Arch. f. Dermatol. u. Syphilis, May, 1898, p. 11.

[5] Jour. Cutan. Dis., 1906, xxiv, p. 241.

[6] A photograph of this can be found in Pusey's Principles and Practice of Dermatology.

[7] Brit. Jour. Dermat., 1906, xviii, p. 402.

[8] International Atlas, v, Plate xvi, 1891.

[9] Brit. Jour. Dermat., June, 1907, p. 198.

[10] Brit. Jour. Dermat., December, 1907, p. 417.

CONCLUSIONS.

1. Such cases as are considered in this paper are few in number, but are sufficiently characteristic to be described as a distinct variety under the title of "erythema figuratum perstans." Some of the cases possess anomalous features, suggesting a type of erythema multiforme, yet not sufficiently distinctive to place them in that group.

2. The disease under consideration begins with scattered and isolated papules, which tend to fade at the center while extending peripherally, thus forming circinate erythematous outlines. The outer half of the advancing margin is smooth and slightly raised, the inner edge scaly and desquamating—a marked feature. The surface over which the disease has traveled is sometimes slightly scaly and pigmented. The larger lesions vary in size from a 25-cent piece to the palm of the hand—occasionally larger. The rings assume circinate, annular, discrete, confluent, gyrate or zigzag forms. In certain instances the lesions, whether evanescent or of long duration, do not develop the ring form. Two observations have been made in which the lesions formed within the area occupied by the disease followed the lines of evolution established by the first. Subjective sensations may or may not be felt.

3. In these cases, clinically considered, the erythema presents a peculiar type, different from any other form. This difference is further confirmed by the inflammatory character of the lesion, with an absence of pronounced infiltration in the fresh foci. The arrangement of the skin lesions constitutes the most important clinical feature.

4. The rate of the development of the lesions of erythema figuratum perstans varies widely. In some instances the ring lesions extend as much as a half-inch in a couple of hours, while in others the same growth requires an indefinite period. Exacerbations vary with the case, sometimes occurring three or four times a year, or oftener. As a rule, the body does not entirely clear up during the intervals. The outbreaks are in some cases said to be influenced by change in temperature.

5. There is no special sex or age predisposition. The disease asserts itself in earliest childhood as well as later in life. In rare instances it begins at birth and may be regarded as congenital. The patients are generally in good health; in a few instances the disease is reported to begin with constitutional disturbances. The etiology of this peculiar skin affection is meager and unsatisfactory and necessitates a careful study from a purely medical standpoint. It is fair to assume that the manifestations in the alimentary tract indicate the presence of an irritant circulating in the blood which, acting on the cutaneous vessels, produces this peculiar result.

6. In erythema multiforme there are usually more pronounced constitutional disturbances. The concentric rings in erythema multiforme show variegated colors and have special clinical varieties, such as erythema iris, erythema tuberculatum and erythema nodosum. The annular variety of erythema multiforme presents an entirely different appearance, is more acute, more deeply infiltrated, and its involution and evolution are entirely different from erythema figuratum perstans. The distribution of erythema multiforme may be general or local, confined even to the mucous membrane of the eye, tongue or mouth. It is often limited to one or two regions, but, whatever parts are involved, the backs of the hands seldom escape, therein differing from the persistent form. The duration of erythema multiforme is from two to four weeks, although it may last much longer.

7. Only a few cases have been studied microscopically. The pathology is that of a superficial inflammation, characterized by dilatation of blood vessels, edema and infiltration of round, plasma and connective tissue cells, especially about the blood vessels, sebaceous and sweat glands. The epidermis shows edema and defect in the process of cornification.

8. No method of treatment has proved permanently curative. The eruption can often be removed by external applications of chrysarobin, but its return is certain. The *x*-ray has been used in one case over a long period without benefit. Internal remedies have proved useless.

ABSTRACT OF DISCUSSION.

Dr. Frank H. Montgomery, Chicago: The grouping of erythema that Dr. Wende has given us in his paper is based on special clinical features. From an etiologic standpoint, however, I question whether such sharp lines can be drawn between these forms of erythema, on one side, and erythema multiforme and lupus erythematosus, on the other side. In connection with this group of eruptions, we have to consider both the toxin and the tissues. We have, for example, the toxin of an acute intestinal catarrh, acting for short periods of time on tissues of ordinary or special susceptibility, and producing erythema multiforme. Then, again, we have a more persistent action of less intense toxin and producing a more persistent erythema. Would Dr. Wende attempt to separate these forms absolutely on etiologic and pathologic grounds, or is it not at present a very convenient and desirable clinical group?

Dr. Grover W. Wende, Buffalo: I should be inclined to separate the condition described in my paper from erythema multiforme and to consider it as distinct. It is true that the little we know about the etiology corresponds with that of erythema multiforme; nevertheless the same cause or causes may be taken into consideration with many dermatoses that depend on intestinal derangements. The clinical picture is entirely different, not alone in the evolution and involution of the lesions, but also as to the locality that is usually invaded. In erythema multiforme the backs of the hands and the face are the parts usually invaded. In the cases under consideration there was no special tendency for the disease to limit itself to these localities. It is true that there is a persistent form of erythema multiforme, but it is usually limited to the locations mentioned, and it may be, as often considered, the forerunner of lupus erythematosus.

VOLUNTARY UNILATERAL NYSTAGMUS. WITH REPORT OF A CASE.*

WALTER L. PYLE, A.M., M.D.
PHILADELPHIA.

The case herewith recorded is one of extreme interest, in that it exhibits a combination of the rare anomalies of unilateral and voluntary nystagmus. Either condition alone is sufficiently infrequent to be worthy of extended report.

Patient.—A young woman, aged 22, in excellent physical condition, and of average size and proportions, consulted me for relief from frontal and sick headaches, which had not responded to extensive general medical and neurologic treatment.

Examination.—There was well-marked, chronic catarrhal conjunctivitis in the upper and lower eyelids of both eyes, with a troublesome edema of the left eyelids. There was also complaint of pain in the left eye, particularly in close work. The patient had never worn glasses, and until the last ten or twelve months had experienced no inconvenience in her visual labors. In fact, she had been remarkably free from ocular disturbances. There had never been any association of ocular affection with her headaches. It was only when other means had been exhausted that as a last resort she was advised to apply for ocular examination. Under homatropin cycloplegia, I found a small amount of compound hyperopic astigmatism at horizontal axes, equal in amount in both eyes. Both with and without optical correction, the visual acuity was normal. There was no heterophoria or other disturbance of the ocular musculature. In the course of examination, I noted a sudden unilateral convergence of the left eye, with subsequent rapid oscillation for about 30 seconds. In a few minutes this recurred, which circumstance determined me to make guarded inquiry into the phenomenon. I soon found that the oscillations could be inaugurated voluntarily and as promptly checked. Although the patient disclaimed any knowledge of her ability to effect these maneuvers, she stated that she had never, for purposes of exhibition or self-experiment, produced the nystagmus. However, she exhibited no surprise at my demonstration of her extraordinary ability in this direction, which would lead to the natural inference that she was fully conscious of her power. Repeated experiments failed to show any such control of the right eye. The family history was good, and there could be obtained no records of any noteworthy ocular affection in two generations, with particular reference to any disturbance of the extraocular muscles. She could not remember any case of strabismus in the family.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Treatment.—The constant use of proper glasses was followed by prompt and complete relief from all the asthenopic reflex symptoms, and when the patient left me, a month later, she was quite satisfied with her ophthalmic experience.

Remarks.—A year later I directed a letter to the address that she had given me, but received no reply, and hence am not able to record the after-history. I am in hopes of discovering her whereabouts, however, and in such case will publish a supplementary note to these observations. During her last visit, at intervals of about 5 minutes, she three times gave a demonstration of her extraordinary faculty and seemed to effect the oscillations with as much ease as before. The only requisite seemed to be the act of convergence, which, however, did not necessarily have to be extreme. The oscillations could be easily produced while the eyes were fixed on type at the ordinary reading distance.

UNILATERAL NYSTAGMUS.

Although unilateral nystagmus is of rare occurrence, a number of cases are recorded in modern ophthalmic literature. Alexander Duane,[1] in a discussion before the New York Academy of Medicine, March 20, 1905, classifies the anomalous types of nystagmus under the following headings:

1. *Disjunctive Nystagmus.*—The two eyes move, not in parallel directions, but alternately and away from each other. The movements are symmetrical and equal in the two eyes.

2. *Dissociated Nystagmus.*—The movements of the two eyes are unsymmetrical and unrelated, one either moving much faster and further than the other, or moving in a totally different way.

3. *Unilateral Nystagmus.*—He regards this as a variety of the second form. He also refers to circumduction nystagmus as an extremely rare form of the affection.

In common with Neustätter, Schapringer, Spicer and others, Duane believes that most cases of unilateral nystagmus are really of the bilateral type, the movement of the supposedly quiet eye being very minute, and thus escaping detection. In this connection it should be noted that in many instances the lesser forms of nystagmus are not made frankly manifest until an ophthalmoscopic examination is attempted, or the eyes are tested in extreme rotations.

Alfred Graefe[2] mentions a curious case of vertical nystagmus in one eye and horizontal nystagmus in the other, which at first sight might have been considered unilateral or alternating nystagmus. He ingeniously demonstrated the type of movements by the shape of the corneal images of a candle flame—in the horizontal form the image was broadened; in the rotary form, it was enlarged in all directions.

Duane states, however, that he has seen but two undoubted cases of unilateral nystagmus. He also records one case of unilateral rotary nystagmus, in which, however, there later developed bilateral movements. Simon records one case in which at first the nystagmus was unilateral and mixed (vertical and rotary), but subsequently became bilateral and horizontal. It is of interest to note that a nystagmus originally bilateral may become unilateral. According to Schapringer, in spasmus nutans the nystagmus may disappear in one eye only. Again, according to Simon, bilateral nystagmus due to bilateral corneal opacities may disappear from the eye which clears first. He reports two cases in which infantile unilateral nystagmus was caused by unilateral corneal opacities. In the case under discussion, the nystagmus was originally bilateral and disappeared, first in one eye, and then in the other as the respective cornea cleared. It is worthy of mention, however, that nystagmus seldom occurs in cases of unilateral amblyopia, strabismus being the usual consequent disturbance of the musculature. Heimann mentions the occurrence of unilateral nystagmus in an amblyopic strabismic eye; but, according to Duane, such occurrence should be recorded as an acquired optical nystagmus rather than one infantile in origin. According to A. Graefe, in some of the cases of nystagmus, infantile in origin, without demonstrable causative ocular lesion, the oscillation may be attributed to a congenital retinal hemorrhage, which subsequently cleared.

Cases of unilateral nystagmus have been reported by Neustätter, Schapringer, Krause, Heiman, Spicer, Duane, von Reuss, Eversbusch, Bouchaud, Norrie, R. Sachs, Nagle, Oppenheimer, Weber, Schwarz, Simon, Nettleship, Soelberg Wells, Fuchs, Noyes, and A. Graefe. Of 52 cases collected by Duane, 34 were vertical, 11 horizontal, 5 rotary, and 2 mixed. In none of the cases reported, however, was the condition of voluntary nystagmus mentioned.

Duane points out three varieties of tremor of ocular movements: 1. Searching movements. 2. Pseudonystagmus, or jerking movements, which he says are not infrequently unilateral, particularly if the affected eye has the relatively weaker muscles. 3. True nystagmus, in which the eyes make a series of very regular, short, quick oscillations about a central point.

Unilateral nystagmus, he says, may be associated in early life with spasmus nutans, or unilateral opacity of the media. In later life, it may arise from unilateral amblyopia and unilateral opacity of the media, unilateral astigmatism, and nervous diseases (especially multiple sclerosis). From his observations he deduces that unilateral nystagmus differs in no essential way from bilateral nystagmus, but represents simply a form of the latter.

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[1] New York State Jour. of Med., 1905, v. 245.

[2] Graefe und Saemisch Handbuch, vi. 1.

Nettleship[3] mentions three brothers (children), all of whom exhibited unilateral nystagmus; two were subject to "fits" and were strabismic. He reports another case of unilateral nystagmus in an infant, with rhythmic movements of the head and corresponding arm. He observes that this type of nystagmus, and associated with rhythmic movements of the head and arm, is not exceedingly rare; and also that this association of epileptic convulsions and other important nervous affections is not uncommon.

Zehender[4] also describes the case of a child with unilateral nystagmus.

Related to corneal opacities as a cause of nystagmus may be mentioned astigmatism. Stevens[5] reports five cases of functional nystagmus, or, as he prefers to call it, talantropia (an oscillating), in one family; a brother, two sisters and two young cousins (a boy and girl), in all of whom there was a high degree of astigmatism. Although no such case is recorded, it is quite possible for unilateral nystagmus to be associated with high unilateral astigmatism, and I have seen, personally, a nystagmic patient in whom the oscillations in the highly astigmatic eye were much more marked than in its less ametropic fellow.

Bernheimer[6] reports a case of a hypermetropic patient in which nystagmus was produced after prolonged close work, and disappeared after the use of proper correcting lenses. I have seen similar relief follow the full correction of astigmatism in at least a half-dozen such cases. It is my custom in all cases of purely functional nystagmus, and even in cases in which there are pronounced intraocular changes, to prescribe for constant use full correcting lenses, after most careful subjective and objective examination of refractive conditions, when necessary, under complete cycloplegia. Often there follows almost immediate subsidence in the rapidity and extent of the oscillations. Even in cases of nystagmus associated with grave cerebrospinal disease, I believe such procedure advisable, but, of course, with much less hope for noticeable improvement.

VOLUNTARY NYSTAGMUS.

Inasmuch as the term nystagmus signifies an involuntary oscillation of the eyeball, it is perhaps awkward or at least illogical phraseology to speak of voluntary nystagmus. J. W. Smith[7] has suggested as a better name for this condition ophthalmodonesis, which he defines as a voluntary tremulous or oscillating movement of the eyeballs.

Mention of voluntary nystagmus is exceedingly rare in ophthalmic or neurologic literature, and in most of the related text-books little or no mention of this condition is made. Graefe believed that voluntary nystagmus could only occur in persons who were formerly the subjects of an involuntary nystagmus which had disappeared. However, I have been able to find sufficiently accurate and complete reports of cases of pure voluntary nystagmus by Benson, Lawson, J. W. Smith, W. E. Gamble, Noyes, Williams, Dodd, A. E. Davis, J. E. Colburn, Grimsdale, Ernest Clarke, and Fuchs.

A. H. Benson[8] records a case in a young woman of 24, who could cause oscillation of her eyeballs at will. The motion was very rapid, but the excursions were short. It is noted that the nystagmus was always bilateral and at no time were there involuntary oscillations. The patient was slightly hyperopic. George Lawson[9] mentions having examined a man who all his life had been able to control his eyeballs at will. In this as in the preceding case the motion was so rapid that the margins of the cornea could not be continuously defined. As in the previous case the voluntary nystagmus was always bilateral. Lawson refers to another case observed by him in the person of a former house surgeon of the Royal London Ophthalmologic Hospital. In this instance, the lateral movements were not so rapid and it was necessary for the patient to converge his eyes before the oscillation could be started. The movements were invariably bilateral and under complete volition. In 1882, J. A. Campbell[10] recorded the case of a presbyopic woman who could vibrate both eyes horizontally at will. This seems to be the first American case reported.

Ernest Clarke[11] records an unusual case of nystagmus, which, while not voluntary, is of sufficient interest for mention here. The patient was a youth of 19 who had been apprenticed to a jeweler three years before. While working at his trade, while the eyes were fixed for any object at any distance, the view was cut off from either eye by the interposition of an opaque object, horizontal nystagmus occurred in both, the oscillation being slow and jerky when the right eye was occluded and rapid and more regular when the left eye was blocked. It is also noted that extreme movement in all directions would produce nystagmus. H. B. Grimsdale[12] reported four cases in which occlusion of either eye produced nystagmus, which immediately subsided on the restoration of the binocular vision.

These cases are analogous to those reported in a paper on "Acquired Nystagmus in Occupations Other Than Coal Mining," by Simeon Snell.[13] This author has written extensively on miners' nystagmus, which he attributes to prolonged natural upward rotation rather than to insufficient illumination. In the paper under discussion he mentions the classical and interesting biographic note of Michael Angelo set forth by Condivi, which was corroborated by Vasari, the contemporaneous biographer of the celebrated decorative painter. It is authoritatively stated that during his lifetime Michael Angelo was so affected by his strained attitude in gazing up at the vaults in the Sistine Chapel, in which for many months he was engaged in the work of decorating with frescoes, that he lost for some time the power to read except when he elevated the paper above his head and raised his eyes. Further, it is stated that Michael Angelo wrote a sonnet describing the constrained attitude in which he was compelled to work and its consequent disagreeable sequels—translation of which has been made by John Addington Symonds. Symonds remarks that the autograph of this manuscript included a humorous little caricature on the margin, showing a man, with protruded stomach and head bent back, using his brush on the surface high above him. He also mentions that as far back as 1874 Nieden recorded a case of acquired nystagmus "in a plank cutter," a workman who, in standing under the tree, observes very exactly a line marked for cutting, while keeping the eyes in a strained condition and upward direction—work very similar to that done by a bottom-sawyer in England. In a letter to Snell, Nieden remarks that, although he has made investigation in many cases of painters and ceiling decorators, he has not been able to find a case of regular nystagmus, although the symptoms of muscular asthenopia were often complained of. In his paper Snell has personally collected 21 cases of acquired nystagmus occurring in different occupations, comprising 6 compositors, 2 metal rollers, a plate layer, a plank cutter, a saw maker, a sanitary tube maker, a fitter and iron founder, a worker in a "cage," 2 employés in a glass factory, a youth engaged in a confectionery warehouse, a man employed at the screens at the surface of a coal mine, a tool sharpener, and a custodian of a harness room. In all these cases the occupations necessitated unusual strain on the elevator muscles of the eyeballs, causing at first a weariness and later oscillating movements. The nystagmus in these cases, however, was less intense than in the generality of cases met in miners. Snell also refers to the headaches of the visitors of the large art galleries and sightseers in churches and large public buildings, and, although he does not report distinct nystagmus, muscular asthenopia and instability were frequently noted.

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[3] Royal Ophth. Hosp. Reports, xi, 75.

[4] Klin. Monatsblat., 1870, 112.

[5] Stevens (G. T.): The Motor Apparatus of the Eyes, 1906, 439

[6] Bericht über die 29 "Versammlung der Ophthalmologischen Gesellschaft," 1901.

[7] Jour. Ophth. Laryngol. and Otolog., N. Y., 1902, xiv, 308.

[8] Royal Lond. Ophth. Hosp. Reports, 1880-1882, x.

[9] Royal Lond. Ophth. Hosp. Reports, 1880-1882, x, 203.

[10] Trans. Am. Homeo. Ophth. and Otol. Soc., 1882, vi, 70.

[11] Trans. Ophth. Soc., U. K., 1895, xvi, 327.

[12] Trans. Ophth. Soc., U. K., 1895, xvi, 328.

[13] Trans. Ophth. Soc., U. K., xvi.

In 1896 Gamble[14] reported to the Chicago Ophthalmologic Society a case of voluntary lateral nystagmus in a German-American medical student of 24. While attending high school at about the age of 15, he first discovered that he could produce at will lateral nystagmus, which, however, was never involuntary. No difficulty was ever experienced in starting the oscillations, but they could only be continued for less than a minute. The patient was not able to produce unilateral oscillations. The nystagmus was most pronounced when the eyes were fixed on an object six or eight feet distant, directly in front, but even in making the lateral excursion it could be continued with much less rapidity. Gamble notes that the rapidity of the oscillations were as great as he had ever seen in any case of involuntary nystagmus. It was more pronounced in daylight than under artificial light. The patient had never been ill and did not suffer from headaches or eyestrain, notwithstanding the fact that he had always been a student and teacher. His refraction was:

R. + Sph. 2.00 + Cyl. 0.50, ax. 180° = 20/20.
L. + Sph. 0.25 = 20/20 +.

The media were clear, the fundus healthy, the field of vision full, and the color sense normal. The patient had never worked in the mines nor lived in a mountainous country. He had never had writers' palsy, or other profound nervous manifestation. Gamble states that the one other case similar to his that he had seen reported was that by Noyes,[15] in a patient who had acquired the oscillations after having been confined to his room for several weeks suffering with ocular disease. Noyes remarks that in his experience this case was unique. In his text-book Fuchs mentions rare instances of persons who could produce nystagmus voluntarily. Gamble refers to Noyes' case, which he had seen through the courtesy of the elder Williams, of Boston.

H. W. Dodd[16] reports a case of bilateral voluntary nystagmus in a man, an organist, of 23. The patient could produce at will conjugate lateral movements of the eyeballs. When he desired to demonstrate this faculty he would fix his head, look forward, open widely the eyelids, and, as he expressed it, "simply wish" to cause the oscillation. No great effort was entailed and only occasionally was there resultant vertigo or headache. The oscillations could be produced while looking up, down or laterally, either at a distant object or at close range, and also while under the influence of a cycloplegic. The objects looked at moved from right to left, or *vice versa,* and it may be mentioned here that only in voluntary oscillation are subjective disturbances of vision, nausea, vertigo, etc., seen. In all cases of voluntary nystagmus the oscillations can only be continued over a short period, usually in one minute. Dodd's patient possessed the remarkable faculty of being able to converge vigorously, while continuing the oscillations. The power of voluntary nystagmus was first observed at the age of 9. The family history was negative in regard to nervous or mental diseases, and the patient was particularly exempt from any nervous affection. Vision and refraction were practically normal, although there was a patch of chorioretinal degeneration in the right eye, which was of eight years' standing.

Possibly the most complete published record of a case of voluntary nystagmus is that by J. W. Smith.[7] The patient was a male student of 21 of French, Huguenot and English parentage. The family history was good, and the only remarkable ocular affection was noted in a sister of 17, who exhibited apparent convergent strabismus of the left eye in near vision, but whose eyes were in normal balance when directed at distant objects. Beyond a slight inflammation of the eyes at the age of 7 or 8, which speedily subsided under the instillation of a common eye lotion, there was no history of ocular disturbance in the patient. There was absolutely volitional rapid oscillations of both eyes simultaneously in the lateral direction or in the horizontal plane. The oscillations could be started and stopped at the patient's will. A careful subjective examination of the eyeball showed no marked disturbances of refraction, muscle balance, accommodation, fields of vision, color sense, or visual acuity. Ophthalmoscopic examination was negative. There was no malformation of the globe or orbit. The innervation of both the intrinsic and extrinsic ocular muscles appeared perfect, and the patient experienced no asthenopic symptoms, even after long-continued, close vision. The eyes oscillated only in the horizontal plane, but the motions could be produced not only in the primary position, but in the secondary positions, such as extreme convergence, extreme divergence of either eye, and looking upward and downward. The oscillations could be continued during the entire excursion of the globes (circumduction). Oscillations could be produced when the lids were closed and also when the patient looked through a 20° prism placed before either eye, with its base in any position.

It may be remarked that it is generally accepted that visual sensation influences all the various movements of the eyeball; that is, the efferent motor volitional impulses are originated or are preceded by afferent visual influences. In comment on this statement, J. W. Smith with good reason remarks it is certainly apparent in his case that the patient did not depend on visual sensation for the movements of his eyeballs, for he could produce the movements without looking out or *for an object*, either real or imaginary, and, indeed, could produce the movements with his eyelids closed, or in the dark, or without fixing the object. Likewise he could produce the movements of his eyeballs whether he fixed on an object at near range or in the distance. This would seem to show the independence or volitional character of the movements, and thus by elimination, "visual sensations may be excluded as a factor or elements in the causation of the ocular movements in this particular case. Again, if this be true, efferent motor volitional impulses are not wholly dependent on those afferent." Smith believes that the oscillations in his case were dependent on efferent impulses affecting the nervous centers in control of the ocular musculature, or, perhaps, the co-ordinating centers in the corpora quadrigemina, in which case he believes that "if they are not due to visual impulses they must be connected with the kinesthetic or psychomotor cerebral cortex."

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[14] The Jour. A. M. A., 1899, xxxii, 483.
[15] Diseases of the Eye, 1890.
[16] Trans. Ophth. Soc., U. K., 1901, xxi, 244.

The longest period during which Smith observed the movements was thirty-five seconds. The patient stated that in producing the nystagmus there was a sensation of slight pressure on each eyeball, pushing or pressing it forward. Ordinarily, during the production of the oscillation, the palpebral fissure was abnormally wide and the upper lids a trifle unsteady, causing noticeable exophthalmos. There was never observed any change in the pupil during the oscillations. Objects viewed while the eyes were vibrating had a simultaneous movement. At distance, objects appeared to be constantly changing their position, and at close range they doubled and blurred. When the patient vibrated his eyeballs and fixed the object, it seemed double and the images appeared to approach and recede. The oscillations could be produced in daylight or in darkness and in the presence of artificial light, with equal energy and rapidity. The amplitude of the vibration was about one millimeter and the rate of motion approximately 5 or 6 vibrations a second.

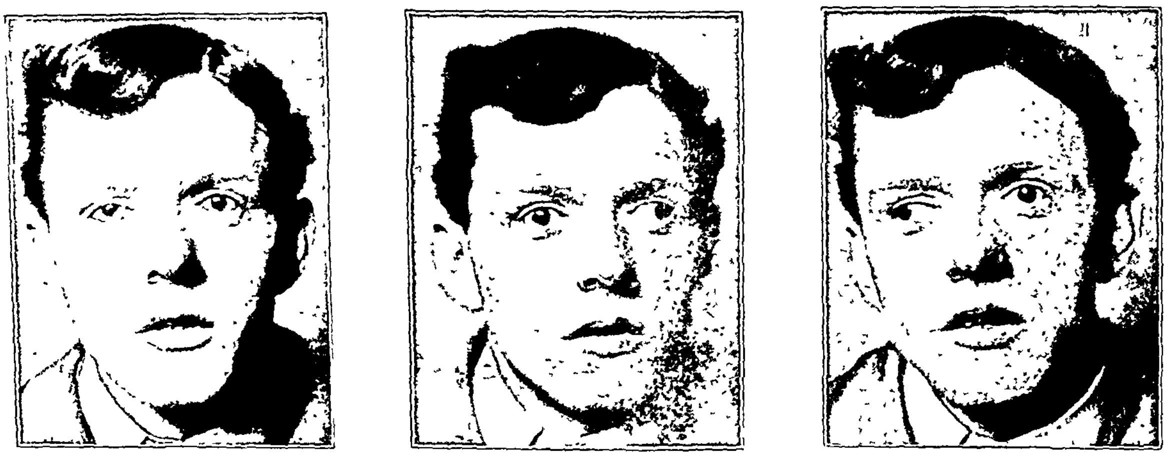
Fig. 1. Eyes in normal position. Fig. 2. Divergence of left eye Fig. 3. Divergence of right eye.

GOULD AND PHILLIPS' PATIENT.

A noteworthy feature of the case was the ability of the patient to arch the right eyebrow independently of the left, or to arch the right upper brow and draw the left down at the same time. He could also close the left upper lid over the eyeball without wrinkling the forehead or the skin of the eyelids, the upper lid apparently falling gently and smoothly over the globe, while the right eye remained open. The patient could also vibrate the alæ of his nose very rapidly and move either ear. All these movements were executed while under the control of the will. I may here mention that one of the most successful and entertaining tricks of a well-known American comic opera comedian is this power to produce bizarre disassociated movements of the eyebrows. None of his stage play is more convulsively humorous than the contortions of his forehead and eyebrows (exaggerated by his "make up" to accentuate the incongruous upper facial grimaces).

Another popular comedian owes much of his successful fun-making to his ability to move one eye independently of the other. Foster remarks that "very few persons are able by direct effort of the will to move one eye independent of the other, though some, and among them one distinguished both as a physician and oculist, have acquired this power." I have seen this faculty exhibited in the person of a negro lad of about 19, a frequenter of the Dispensary of the Emergency Hospital, Washington, D. C., during my service, 15 years ago, as resident surgeon of that institution.

Dr. George M. Gould, of *Philadelphia*, and Dr. William L. Phillips, of Buffalo, have described an extraordinary case of voluntary unilateral divergence in a man of 32 (see illustrations). The patient not only had binocular fixation, but also binocular vision, which, however, was markedly decreased in comparison to monocular vision, likely due to persistent non-use of the binocular position. A remarkable feature of this case was the ability to keep both eyes simultaneously in focus while in the strangely dissimilar positions—one eye straight in front, and the other in extreme divergence. While reading a test-card with the fixing left eye the patient promptly recognized facial grimaces made by the examiner standing in such a position that his face could only be seen by the divergent right eye. Immediately the patient said, "I see you! You can't come that on me." Dr. Phillips also describes another similar case in a man of 60. This patient had taught himself to set type and read proof at the same time without movement of the head. He had never had noticeable diplopia.

In both of these patients the lateral field of vision, when the eyes were diverged, was 220 degrees. The other points in common in these two cases were: The anomaly had existed since birth. They were able to move their eyes in any direction, having absolute control of their external ocular muscles. They were both myopic and had about the same visual acuity under cycloplegia as with the accommodation active, and whether one or both eyes were used in the visual act. When angry they used binocular vision. They were able to converge and diverge when looking either up or down, to the right or left, showing absolutely no deficient innervation of the musculature. Their retinas showed a similarity to the ungulates, in not having a highly developed area, which would suggest a true macula. Although light perception was more acute centrally, it was, however, quite serviceable in all parts of the retina. If it were possible to secure a careful pathologic examination of these eyes, Phillips believes that it would be found that the extraordinary ability of ocular rotations was due to absence of a well-defined macula, which fact would afford evidence in support of the opinion that the macula is absolutely necessary only for binocular vision at the near point.

J. E. Colburn, quoted by Smith, reports a case of involuntary movement in one eye in an engraver of 28. He was accustomed to use his loup before the left eye with his tools distributed to his right side. He used his graver with his left hand and could pick up any tool desired on the table near him without changing the relation of his eye to his work. He had also acquired the habit of fixing with his left eye and rotating his right in any direction required, though not so rapidly and so steadily as when the loup was in position before the left eye. As a result of these curious ocular gymnastics there was produced an attack of cyclitis in the right eye, eight years before, which had recurred three years later, and again in two years. Each attack was more protracted than the preceding. Colburn also mentions the case of a girl, aged 18, who, following an injury to her head in a runaway accident, exhibited rotary nystagmus over which she had perfect control. However, when her attention was not fixed, the oscillations were continuous and considerable.

Such power as the foregoing would indicate inhibition of one eye with volitional innervation of the other, indicating, as Smith sets forth, that the coordinating centers of the two eyes must be influenced along different paths or by different stimuli, or by cortical impulses coming from different areas. He describes a so-called "Z-tract," the fibers of which extend from the neighborhood of the precentral sulcus—the motor area for the eyes—downward between the caudate nucleus and the lenticular nucleus (probably some fibers pass through the corpora striata), thence through the thalamus to the corpora quadrigemina and to the nuclei of the third, fourth and sixth nerves. He notes that nystagmic movements have been produced by passing a probe into the region of the corpora striata and optic thalami. It is remarked that incoordinated movements of the eyeballs are never intimately connected with lesions of the upper and more peripheral parts of the brain. Cerebral hemorrhage involving the basal ganglia often produces conjugate deviation of the head and eyeballs toward the unparalyzed side. Smith also calls attention to the fact that conjugate deviation of the eyeballs occurring as a symptom of cerebral lesion in the region of the basal ganglia is usually indirect and transitory, showing a temporary disturbance only in the tract of fibers connecting the cortex with a center of the brain. The natural conclusion is that in the projection system anatomic examination seems to indicate the connection between the cortical centers of the frontal lobe and with ganglionic centers of the thalamus, and of these with the nuclei of the nerves of the ocular muscles, and later with the coordinating centers.

ABSTRACT OF DISCUSSION.

Dr. M. Wiener, St. Louis, agreed with Dr. Pyle on the necessity for correcting the error of refraction in these cases of nystagmus. He said that about a year ago he had occasion to examine a lady, aged 39, with unilateral nystagmus. The left eye on being fixed was perfectly quiet, while in the right eye there was marked lateral nystagmus. The patient was myopic and astigmatic, but more in the right than in the left eye, whereas the same correction had been given for both eyes. On giving a full correction the nystagmus almost entirely disappeared.

Dr. A. E. Davis, New York, referred to a case of a young girl 7 or 8 years of age, who could voluntarily produce a rapid horizontal nystagmus. Both eyes were involved. There was no refractive error of importance. Dr. Davis said that the patient still had this ability and she was now 17 or 18 years of age. The fundus of the eye was normal and the patient complained of no headache or other ocular symptoms.

Dr. Walter L. Pyle, Philadelphia, called attention to the fact that in spite of all efforts to concentrate and fix the eyes there was still an unconscious, but yet appreciable movement at all times. The assumptions of the older psychologists that there was a definite visual "point of regard," Dr. Pyle said, was now challenged on very convincing experimental evidence. Recently Prof. Raymond Dodge had claimed that instead of a "point" the center of visual interest was a very appreciable "area." This thesis he supported by a few very simple subjective experiments. Dr. Pyle also referred to the authentic reports of cases of voluntary iris, in one of which, by Bechterew, there is described a unilateral voluntary control of the iris. He had found at least a half dozen bilateral instances of this phenomenon in ophthalmic literature. Dr. Pyle reiterated his belief in the importance of the careful correction of refractive errors in all cases of nystagmus, even when there is associate cerebrospinal lesion.

FRACTURE OF PATELLA,

WITH SKIAGRAMS OF RESULTS OF TREATMENT BY SUTURE.*

J. M. BATCHELOR, M.D.
House Surgeon, Charity Hospital.
NEW ORLEANS.

The literature concerning fractures of the patella up to ten years ago is chiefly remarkable for the constantly changing view there represented concerning the proper treatment of the condition. The evil results of patella fractures vary from simple restriction of joint movement to complete loss of function with ankylosis. Such results, partial recovery and impaired function are dependent on two factors: First, improper coaptation of the fracture, and second, prolonged fixation of the joint with resultant atrophy of the quadriceps extensor and shrinkage of the joint capsule. The former condition being dependent on interposition of periosteal tabs, contraction of the quadriceps extensor and intra-articular hemorrhage, rendering it difficult to approximate the fragments.

As early as 1868 v. Volkman attempted to secure close apposition of the fragments by subcutaneous suture, which, with some modification, was later practiced by Kocher, Ceci, Heusner and others, with the inevitable result of impaired function or, at best, a fortuitous union. After the introduction of the antiseptic period with Lister's attempt in 1878 to wire the patella by open suture, and with the subsequent perfection of aseptic technic, surgeons the world over have finally adopted the method of open suture as being the only method of removing the mechanical hindrances before mentioned.

I have operated in the past twelve years in eleven cases. My first operation was performed in 1897 and consisted in wiring the patella with silver wire. The patient in this case was admitted to the hospital May 17, after sustaining a fracture of the patella by indirect violence. He stated that two years before, fracture of

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* Read before the Orleans Parish Medical Society, July 27, 1908.

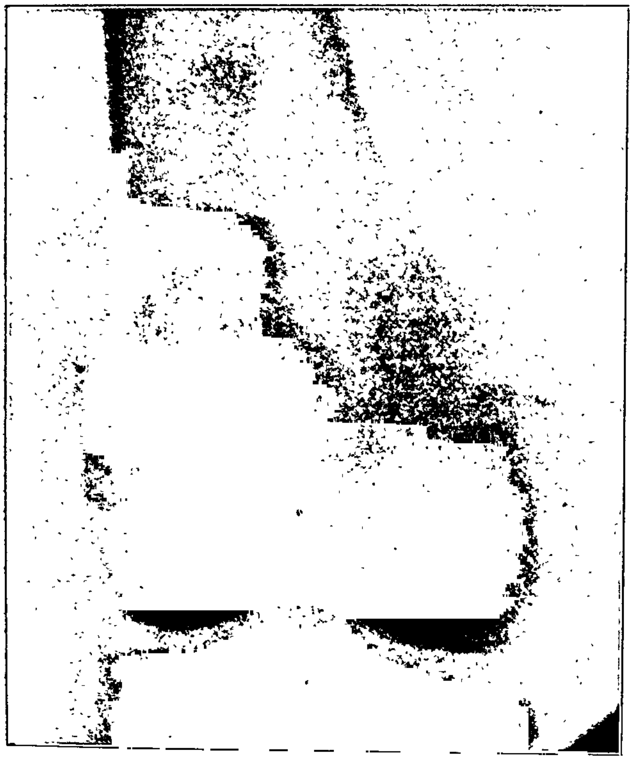

Fig. 1 (First Series).—Skiagram of fracture of patella, showing a separation of ⅜ in. Operation done under chloroform anesthesia.

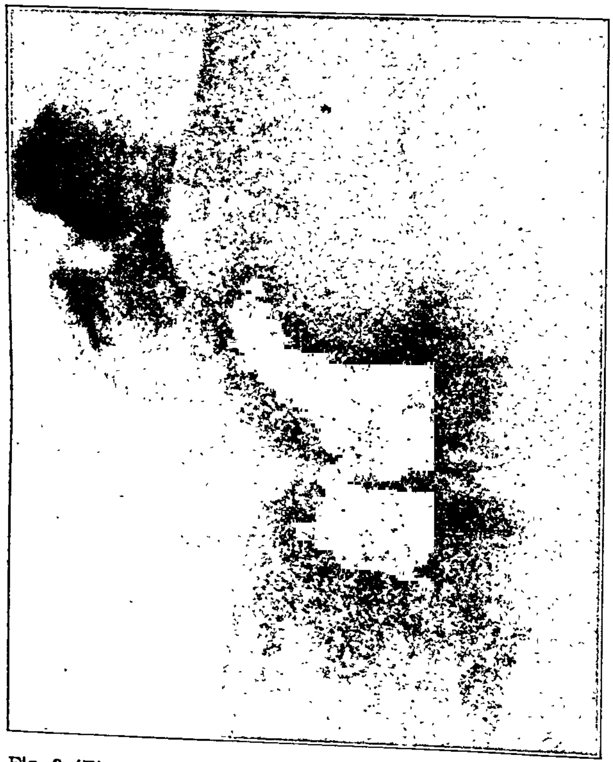

Fig. 3 (First Series).—Skiagram of fracture of patella, showing separation of bony parts. Operation under local analgesia (Schleicht).

the same patella had occurred and this had been treated by splint and bandaging. In this case, as in all others, with one exception, I allowed forty-eight hours to transpire before operating, so as to allow complete cessation of hemorrhage and thereby lessen the difficulty of operation.

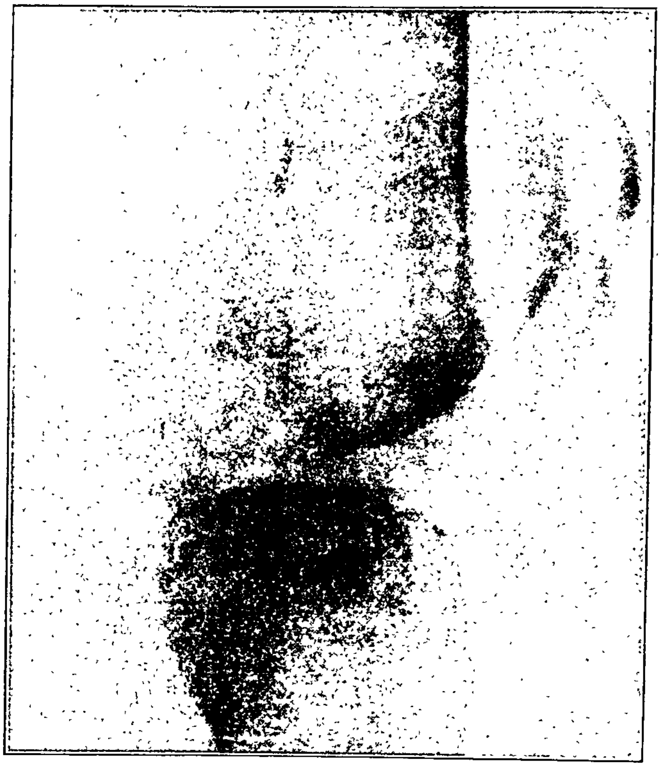

Fig. 2 (Second Series).—Skiagram of the knee joint shown in Figure 1, taken fourteen months after fracture. Bony union has occurred.

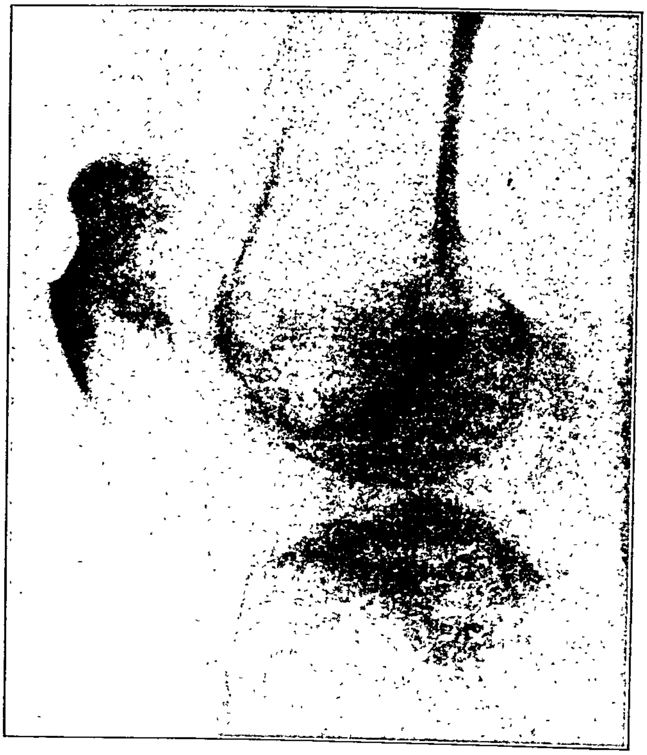

Fig. 4.—(Second Series).—Skiagram of knee joint shown in Figure 3, taken two years after fracture. Bony union complete.

OPERATIVE TREATMENT.

My subsequent experience in the second case, in which I operated immediately after the injury, convinced me of the advantage to be gained by a forty-eight hour wait before operation. In this second case the constant oozing of blood in the joint, rendering frequent sponging necessary, left me in some doubt as to the wisdom of closing the joint in which I had reason to believe a collection of blood would finally be left. My technic in all subsequent cases, as in the first, has been to confine the patient to bed for forty-eight hours after the injury before operating and during this time to fix the joint and apply an ice-bag. The difficulty of operation is much reduced by this wait, sponging being less necessary and much traumatism of the joint obviated.

During the entire operation it is my custom to run a 1 to 20,000 bichlorid of mercury solution through the joint, obviating the necessity for sponging and preventing sepsis. The suture has been, indifferently, catgut or kangaroo tendon except in the first case, in which the patella itself was wired with two silver wires. In every case immediate and complete closure of the joint was done and primary union resulted.

POSTOPERATIVE TREATMENT.

The postoperative treatment consisted in immobilization of the joint by a posterior gutter splint with confinement in bed for fourteen days, after which the patient was allowed to get up and walk, the leg remaining in the splint. The intra-articular pressure from weight-bearing I have found to aid greatly in overcoming stiffness of the joint and in causing resorption of adhesions that may have formed, and I believe it contributes greatly to restoration of the joint function. I have rarely found it necessary to practice passive motion for more than seven days.

In the skiagraphs (Figs. 1, 2, 3 and 4) of two of these cases, the first series (Figs. 1 and 3) were taken four weeks after the operation, and the second series (Figs. 2 and 4) were taken at periods of fourteen months and two years later, respectively. It will be seen that in each case in the first series (Figs. 1 and 3) of skiagraphs taken four weeks after operation there appears to be a separation of the fragments, in one case (Fig. 1) an apparent separation of at least three-eighths of an inch. It will be observed in the second series (Figs. 2 and 4) of skiagraphs that there is bony union in each instance. Three of the patients in these eleven cases were operated on under local analgesia (Schleich). In these eleven cases ten of the patients have perfect function of the joint, being able to flex the limb to the extreme and to mount a chair while standing close to it.

CONCLUSIONS.

My observations from the standpoint of these cases and of the skiagraphs of seven of them lead me to the following conclusions:

1. Bony union rarely takes place before thirty days.
2. Bony union is possible where there is, after suture, a separation of the fragments equal to three-eighths of an inch.
3. Whenever general anesthesia is directly contraindicated such patients may be operated on under local analgesia and bony union confidently expected.
4. The essential requirements of the operation are, first, preliminary fixation of the joint for from forty-eight to seventy-two hours to allow complete arrest of hemorrhage: second, suture of the lateral tear of the capsule, thereby restoring the reserve extensors and obviating the danger of atrophy of the quadriceps; third, absolute asepsis and immediate closure of the joint without drainage.

GENERAL PARESIS IN CHILDHOOD.*

ARTHUR WILLARD FAIRBANKS, M.D.
Assistant Physician for Diseases of the Nervous System at the Children's and City Hospitals; Instructor in Clinical Medicine, Tufts College; Visiting Physician to the Floating Hospital for Children.
BOSTON.

I wish particularly to preface this paper by the statement that my remarks apply to paresis in childhood and are based on a study of the disease at this period of life.

Paretic dementia, having its onset previous to the age of 16 years is, if one may judge from the space given to the subject in the text-books, of great rarity; and we find, in fact, that previous to the last fifteen years the paucity of cases reported in the literature seems to have justified the scanty attention accorded to the affection by the text-books.

Has this seeming infrequency been actual or only apparent? There are many factors that may explain the apparent but not actual rarity of this affection.

In the first place, we are dealing with an affection whose chief or most obvious symptoms are mental. I believe it is not an exaggeration to say that fewer medical men are conversant with the symptoms of mental disease and their significance, or inclined to give to such cases as come under their observation that inferential attention and study that they would devote to any other affection, than is the case in any other department of medicine.

Secondly, the disease is often extremely insidious in onset. There is rarely anything alarming to the average parent in the early months of the disease. The symptoms are ascribed to indifference, laziness, nervous irritability or ill temper. So gradual is the progress of the mental deterioration that the disease is usually well pronounced by the time the family physician is consulted; but even then the full import of the clinical signs and the significance of their duration may not be recognized. The pronounced clinical features of the affection, especially those of motor character, naturally more obvious to the general practitioner, are often ascribed to shock, or may be considered as the sequelæ of some preceding injury or disease. The parents are assured that the child's brain has been injured and that there is nothing to be done. The advance of the disease is so unobtrusive that the parents delay seeking special advice, and the child dies of some intercurrent disease, and the case is lost to science. In other instances the patient is committed to an institution at so late a period of the disease that, on account of the forgetfulness or indifference of the parents, or lack of thoroughness on the part of the history taker, the exact and early onset of the affection may not be apparent. I am convinced that it is a safe inference that all cases of mental disease in childhood actually antedate considerably the onset assigned by the family.

Finally, without question many cases have terminated their course in institutions, and others are at the present time inmates, that have not been and will not be reported on account of lack of interest or procrastination on the part of the medical officer or on account of the pressure of his routine work. When we consider these facts we are justified, I think, in assuming that general paresis is somewhat more frequent in childhood than might be inferred from the literature, although without doubt a relatively rare affection.

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* Owing to lack of space, the article is here abbreviated by the omission of the report of a case. The complete article appears in the Transactions of the Section and in the author's reprints.

* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

The number of reported cases is so small that it is hardly possible to assert positively that the disease in childhood is increasing in prevalence. In the very large clinic at the Children's Hospital the affection is very rare, and no evidence of any such increase is noticeable. But it is of interest to note that in the series of which I give an analysis at the end of this paper 89 per cent. were reported within the last fifteen years and 65 per cent. within ten years. None of these children was over fourteen years when the first symptoms were noticed. If I had included the fifteen and sixteen year old patients, a very remarkable increase of cases reported within the last few years would be apparent. This is in part due, I am sure, to the very greatly increased interest in the study of the manifestations of disease in childhood. but my personal feeling is that there has actually been an increase of the disease itself, but not as yet of sufficient proportions to be noticeable in any one clinic.

The earliest apparent onset of which I am aware was in a six-year-old child reported by Marr.[1] This is so very early that I should doubt the case, had the autopsy not been obtained. As childhood advances the affection increases in frequency, slowly at first, but progressively, up to the fourteenth, fifteenth and sixteenth years, at which period by far the greater number of instances occur, or at least have that period assigned as the date of their onset. From this age onward there is a very abrupt decline in the likelihood of the occurrence of the disease for a period of several years, at the end of which time there is again an increase in its prevalence, slow and gradual, to the thirtieth year.

CLINICAL PHENOMENA OF THE AFFECTION AND THEIR VARIANCE FROM THE ADULT TYPE.

By the terms "general paresis," "paralytic dementia," "juvenile or infantile dementia," "progressive general paralysis of the insane," occurring in childhood, we mean an affection whose initial characteristic is cessation in the evolution of the intellect and deterioration of its function, and whose further course is accentuated by a progressive disintegration of the higher cerebral centers, with its resultant abnormal psychical phenomena, and by coincident disturbances in the motor and very rarely in the sensory spheres, and characterized pathologically by a meningoencephalitis with atrophy and degeneration of the parenchyma and proliferation of the neuroglia of the subjacent brain.

No one of the terms applied to this affection is really acceptable or correct, especially when applied to the affection as we see it in childhood. For, while these children are always demented. they are not invariably paralytic in the restricted interpretation of the term, and while all of them are abnormal mentally and most of them are eventually paralyzed, they are not always insane in the strict definition of that term; while the title "juvenile" or "infantile dementia" brings to mind certain defective mental conditions in children, either of congenital character or otherwise, and having nothing whatever to do with the affection which we are studying. Some term should be devised to convey to the mind the distinctive character of the affection, and until then the title, general paresis, is perhaps less objectionable than any of the others.

The characteristic clinical features of the disease in childhood are, in its onset, failing memory, depreciation of intellectual power and change of character, the first two being usually noticed in the cessation of progress at school. These symptoms are progressive and are soon associated with tremor of the face, lips, tongue or extremities, of varying extent and degree; disturbance of muscular coordination, disorders of speech, disturbances in the gait, change in size and reaction of the pupils, and exaggeration of the deep reflexes and often of the superficial as well. As the disease becomes well established, delusions, hallucinations and morbid fears not infrequently appear. As the affection progresses the mental state becomes one of apathy and depression, alternating with occasional outbursts of passion or excitement, sometimes maniacal, or, without such outbursts, it remains one of apathetic content or indifference. External impressions become superficial and transient. Even occasions of great grief or anxiety in the household bring forth no response from the child. This is often in most striking contrast to the previous affectionate and sympathetic disposition of the child. Deeper and deeper the child sinks into imbecility; it becomes more and more unsteady and tremulous; weaker and weaker on its legs; incapable of clothing or feeding or helping itself in any way; unclean and without control over the sphincters; and, finally, bedridden, more from general tremulousness and inability to initiate and control muscular movement than from definite localized paralysis. Soon after the state of bedridden helplessness is reached, contractures ensue, bedsores develop and in a condition of advanced emaciation the victim finally dies of exhaustion or intercurrent disease, occasionally with terminal convulsions.

Intercurrent in the course of the disease, general or localized epileptiform convulsions sometimes occur, and palsies of varying extent and degree are not uncommon, especially in the part either exclusively or most markedly affected by the epileptiform seizure. These palsies are more often partial than absolute. They may remain permanent or they may slowly clear up, notwithstanding the advance of the disease, in which case they usually recur sooner or later in the same part, not often in some other part of the body. Especially is this so in the local paretic conditions following epileptiform convulsions, at some subsequent recurrence of the spasm.

The sudden, frequent and transient implications of the cranial nerves, so characteristic of cerebral syphilis, do not occur in this affection. a point of considerable importance. as will be seen when we come to speak of the differential diagnosis. Cranial nerve palsy, when it occurs, usually involves some branch of the third nerve.

Optic atrophy is quite frequent, but not sufficiently so to make it a prominent feature of the symptom-complex. While usually a feature of the well-developed stage of the affection, motor disturbance may occur very early, or in rare instances may seem to usher in the disease. Tremor and incoordination are quite frequently early phenomena, and occasionally well marked paralysis or convulsions may take place early in the course of the disease. or may be obtained in the history as occurrences long preceding the apparent onset of the dementia.

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[1] Case 34 of the Summary.

Wherein does this disease in the child differ from the adult form? In many features, but first in a very striking particular, namely:

The male sexual predominance, so characteristic of the adult type, does not hold true in childhood. The disease is about equally divided between the sexes. Thus, of a large number of cases studied, there were a series of forty-two authentic cases, the origin of which in every case occurred before the end of the fifteenth year, that is, well within the period of childhood; and of these twenty patients were boys and twenty-two were girls.

Second. The course of the disease is somewhat longer in the child.

Third. In the infantile type, well-defined, true delusions of grandeur, expansive obsessions, are rather rare. They do, however, occur, but are then limited in range, due probably to the child's previous inexperience in and consequent ignorance of the social, political and business relations of life. Other and more common delusions are also of simple character and much more transient than in the adult, not nearly so persistent.

Fourth. The emotional element is the essential and predominant feature of the infantile type. Causeless excitement, unprovoked laughter or weeping, screaming, and morbid fears interrupt the apathetic contentment. Excitement is prone to occur or be especially marked at night.

There is no doubt that the disease in the child is less complex and presents, as Watson says, a purer type than in later life.

SPECIAL FEATURES.

One of the most characteristic of the clinical phenomena of this affection is the muscular instability, that tremulous condition of muscular equilibrium, sometimes constant, sometimes occurring only on attempt at voluntary movement, and always greatly increased by such attempt, occurring in the face, lips, tongue or extremities mainly, but evident more or less in the body as well. With this tremor there is quite frequently, but by no means invariably, a distinct inability properly to control or to coordinate muscles or muscle groups for complex action. Both of these conditions seriously interfere not only with the action of the hands, but with the gait and the function of speech, and add to the special disturbance of the gait and speech that is peculiar to the disease.

The gait may be spastic or ataxic, as in tabes, and is occasionally distinctly staggering; but the most common characteristic, in the child, at least, is the unsteadiness of the gait. To overcome this unsteadiness, the feet and legs are placed wider apart than normally, and the child's attempts to walk often recall to mind the early efforts of the infant in learning to walk. As this condition increases in intensity, the child becomes more and more afraid to trust itself to walk alone.

The speech is tremulous, slow and often hesitant, and of monotonous character, with little or no change of inflection. It may be lisping or stammering and occasionally the speech has a somewhat explosive character, but this is not very marked or common. Syllables and words are often transposed or elided. This phenomenon is probably purely mental in origin, but many of the other peculiarities are due to difficulty in initiating the coordinate muscular action necessary for the emission of a syllable or word, or to overaction of certain muscles and insufficient action of others, involved in the function of speech. The slowing and hesitation may be due to the use of indirect paths in the brain between the auditory and visual memory centers and the motor centers for speech, necessitated by the destructive progress of the disease. Sometimes preceding or during speech there is overaction of the facial muscles, especially about the mouth, or fine twitching of these muscles occurs. Toward the end the speech usually becomes either impossible or a mere jumble of unintelligent sound.

The features are deficient in expression, and often do not respond to emotion which the child seems to feel. It is not quite accurate to describe them as expressionless. In some cases there is a peculiar suggestion of anxiety in the countenance, which is sometimes accentuated by the furrowed condition of the forehead, which may by itself alone give a distinctly scowling cast to the expression, very different from the blank stolidity and complete facial inaction seen almost invariably in the adult. The pupils are usually dilated, and as a rule unequal, and always sluggish or inactive to light, and, not so very infrequently, also to accommodation. They are rarely both contracted, although, somewhat more commonly, one may be so for a time, in the earlier stages of the disease. Occasionally the light reflex is lost on one side before it fails in the other eye. The deep reflexes are always exaggerated in the uncomplicated case. When in such cases they are not so found, it is because of lack of relaxation of voluntary muscular tension, or on account of rigid muscular contracture. Clonus and the Babinski sign are occasionally to be elicited, but are not essential or even common features of the symptom-complex. The superficial reflexes are also sometimes increased. The Romberg phenomenon does not occur in the affection, at least in the child. There is in some instances a marked increase of muscular irritability.

Sensory disturbance is not a feature often present, although some diminution in reaction to pain may occasionally occur, probably from mental obtuseness rather than from actual anesthesia. Headache is not sufficiently frequent to be considered as either an essential or common phenomenon. When it occurs, however, it may be a cause of bitter complaints.

MENTAL STATE.

In the early stage of the disease failing memory and alteration of character usually constitute the initial signs of the impending disintegration of the mind. A child previously affectionate, sympathetic and tractable, companionable with its fellows, fond of its work and its play, and more and more interested in its increasing complexity, incident to the evolution of childhood, becomes less demonstrative, less interested in and more and more indifferent to its environment. External events fail to excite the accustomed attention, and irritability and resentment take the place of affection, sympathy and docility. Little acts of affection or courtesy once practiced are less and less evident, and childish duties learned and once well performed are neglected and forgotten, and trivial incidents of daily life cause irritative reaction out of proportion to their importance. The necessity of mutual compromise and concessions to the requirements and possibilities of its environment, formerly understood by the child, is now disregarded. New impressions make but superficial indentation on the mind, and such impressions are soon lost, or, if retained for a time, are wrongly interpreted, and not correlated with other impressions in proper ratio.

It is the power of ideation, the logical association of ideas based on experience and on relation with the external world, the proper sense of proportion, the judgment, the higher inhibitive power, the balance of the mind, that is overthrown. The more extensive the previously acquired perceptions have been, the greater and more conspicuous is the wreck of their proper association or correlation with one another. Consequently the brighter the previous intellect of the child the more striking is its early unbalancing and subsequent overthrow.

Delusions and hallucinations are comparatively frequent, but they are of simpler type than those of later life. The following are illustrative:

Hallucinations.—A 13-year-old girl frequently imagined some one was at the door and often ran to open it (auditory?); thought an elephant was at a corner of her bed, and pointed to what she said were men in an empty room (both visual). A 15-year-old girl thought she had money, and when convinced that she had none accused a sister of stealing it; refused food "because she couldn't swallow and all her teeth were falling out," and her father had "put a jug down her throat" and it "was still sticking there." An 11-year-old girl thought a boy told her that a little girl acquaintance was dead and sat at the window for an hour, "looking out at the coffin," although the child in question was not even ill (auditory and visual). A 15-year-old girl declared "the dear lady" appeared to her and "told her she was going to take her to heaven" (visual and auditory).

Delusions.—An 11-year-old girl thought a little boy, living across the street, was beating her. One day her mother heard her screaming in an adjoining room, "Go away with you," "Take it away," and found her pointing to a fly crawling on the table and saying it was a big dog and it frightened her. When at home she imagined that she was away. Another girl thought dogs were following her. A boy gazed for long periods into the palms of his hands and thought he was reading a newspaper. A girl was "acquainted with the queen."

Closely associated with hallucinations and delusions, and often incapable of being separated from them, are morbid fears, as in the case of the girl who constantly worried because at her first communion she "did not confess all her sins," also she "prayed too much," and the devil appeared to her and asked her "to sell her soul." These morbid fears are usually in striking contrast to the child's indifference to events of actually tragic character in its environment.

Marked delusions of grandeur and pronounced states of exaltation are very rare.

While failing memory is often one of the initial signs of the disease, there are occasional instances in which the memory for things learned by rote is long preserved to a remarkable degree. This is also mentioned by Thomson. In the case here reported, under my own observation, five months before death, at a period when all of the other signs of dementia were well marked, the boy recited "Barbara Frietchie" with only two or three mistakes, and these he recognized and corrected himself. Recognition of friends either by sight or voice is also sometimes present for a much longer period than the mental state otherwise would lead one to expect.

A striking feature of the childhood type of this disease is the cessation of sexual and physical development. Sexual growth does not occur after the onset of the affection, the sexual organs remaining infantile in type, and in the girl menstruation does not occur, or if already established it soon ceases, while the physical development advances but little beyond the point reached at the advent of the first well defined symptoms of the disease.

DURATION.

The course in children is steadily progressive. Only now and then is a case seen in which slight remissions occur, but they are brief. On the other hand, although the decline to complete dementia is progressive and relatively rapid, the demented stage itself is relatively long, so that the actual duration of the affection from onset to death averages much longer than in the adult. So decidedly is this the case that in those instances of apparently very short duration it is well to look with some doubt on the period assigned by the relatives as that of its onset. Then, also, in children of duller or slower mental caliber the disease is less apt to be recognized as early in its onset as in the brilliant mind. This in itself greatly modifies the apparent duration of individual cases. It is also probably the reason why cases in which the onset is early seem to run a longer course than those in which we are obliged to accept an apparently late period for the advent of the initial symptoms.

In an affection, the duration of which varies so very greatly, it is of no practical value to assert an average duration obtained by dividing the sum total of the years of duration by the number of cases involved. The figure so obtained tells us nothing and is misleading. What does it avail us to know that of a series of cases whose individual duration varies from one to nine years the average duration is four years? For that does not tell us whether any given case will last the maximum or the minimum of these periods. All that we can say of this disease is that it may last any period from one to nine years. Nothing more definite is possible.

DIAGNOSIS.

If the history is taken with painstaking care, with careful and skilful cross-questioning of the relatives, and our examination of the child conducted with critical thoroughness, there is but a single other disease that can be mistaken for the one we are considering, and that disease is cerebral syphilis. Even here a critical consideration of the course of the affection in all its details, of the character of the onset, course and duration of the individual phenomena, will usually enable us to differentiate the two conditions. When we remember that many of the phenomena of active syphilitic disease of the brain are due to arterial accidents and disturbances in the cerebral circulation from vascular disease, resulting in a cutting off of the blood supply to certain restricted areas of the brain, usually sudden in character and often very transient in duration, and manifested clinically by sudden, circumscribed and fleeting palsies, now here, now there, occurring and vanishing in often most eccentric manner, by vertigo and syncopal attacks, and *transient* disturbances of memory, speech and consciousness; when we remember that in those instances whose chief clinical phenomena are due to meningitis, it is a meningitis localized, or at least concentrated, at the base, with consequent involvement of the cranial nerves and resultant multiple, eccentric and often fleeting palsies of these nerves; and, finally, when we bear in mind that circumscribed gummata, very rare in the child, present clinically the focal signs of intracranial tumor, we shall be saved from many an error in differential diagnosis.

The peculiar manner of onset, erratic course and often very transient character of the phenomena in cerebral syphilis, and their peculiar association with one another, afford quite a different clinical picture from that seen in the ordinary case of paresis. While cerebral syphilis *in toto* is progressive, its individual symptoms are not necessarily so. Moreover, while paralytic disturbances of speech are common in cerebral syphilis, they are usually of brief duration, and the peculiar progressive alteration of speech found in general paresis is practically unknown in this disease. The palsies of paresis, while they may be sudden in onset, are usually partial in character, amounting often times to little more than a muscular weakness, and, although they not infrequently clear up, they do so gradually, and if they recur they tend to reappear in the same part of the body, not in some totally different portion, as in cerebral syphilis. While we may have, at some time or other, in either of these affections, nearly all the symptoms seen in the other, nevertheless the individual symptoms and the aggregate of the phenomena, for any considerable period in the course of the disease, are never similar, and the steadily progressive course of paresis, with the mental disintegration always in the foreground, and the increasing muscular instability and fine tremulousness, associated with disorder in writing and speech, form a clinical picture not likely to be mistaken by a careful observer for active syphilitic disease of the brain.

There are, however, occasional instances in which the absence of special phenomena, peculiar to either disease, and the predominance of mere mental deterioration, render impossible for a time a differentiation between the two affections. Especially may cases seen very early in their course, before the advent of symptoms of special significance, remain for some time doubtful. Cases first seen so late that all peculiar phenomena are obliterated in the general wreckage of the mind may require, especially in the absence of an adequate history, a postmortem examination for their diagnosis.

There can be no possible confusion between well-developed cases of paresis and tabes: and those instances of paresis with tabetic symptoms are simply cases in which the sclerosis of the posterior columns of the cord, a certain degree of which is present in a large percentage of instances, is earlier, or more extensive, than usual. They are simply cases of combined disease, and, at the most, it may be early in the beginning, merely a question which features, the cerebral or spinal, are going to predominate in the subsequent course of the disease. One of the earliest cases of paresis in childhood ever reported was of this mixed type. It was reported by Strümpell, and is the eleventh case in my summary.

PATHOLOGY.

The essential pathologic changes are: a meningo-encephalitis, in which the leptomeninges are thickened, cloudy and more or less opaque, and frequently adherent to the underlying brain; increase in the intermeningeal fluid; atrophy and disintegration of the cortical ganglion cells, and degeneration of the white fibers; proliferation of the neuroglia; granular ependymitis, with increase of the intraventricular fluid, and dilatation of the ventricals; atrophy and shrinking of the convolutions of the cortex.

With these typical changes there is occasionally associated a pachymeningitis, with or without adhesions to the cranium or the subjacent pia-arachnoid, and occasionally a subdural false membrane, and sometimes areas of hemorrhage. The pia-arachnoid, in the majority of cases, is adherent to the underlying cortex, and decortication usually occurs when these adhesions are separated. The two hemispheres are sometimes adherent to one another. The meningitis is very marked over the cortex, but slightly marked at the base. The shrunken condition of the convolutions often leaves the sulci widened. The atrophy and shrinking of the convolutions is especially noticeable in the anterior half of the hemispheres.

The brain, as a whole, is usually, though not invariably, increased in density, but always greatly decreased in weight. Occupying the places of many of the nerve cells of the cortex are proliferated and hypertrophied neuroglia cells with thickened processes. The granular condition of the ependyma is especially pronounced in the fourth ventricle, where the granulations are much larger and, therefore, more conspicuous than in the lateral ventricles. The intracerebral vessels frequently show a greater or lesser perivascular infiltration with round cells and increase in the nuclei of the adventitia, and sometimes actually thickened walls.

Changes similar to those found in the cerebrum may be present in the cerebellum.

The inner and outer tables of the cranium are frequently greatly thickened, sometimes irregularly so, and the cranium as a whole often increased in density.

In the cord the membranes are frequently thickened, and there may be a partial degeneration of the pyramidal tracts, and quite often a sclerosis of the posterior columns. These changes are usually more developed in the upper part of the cord. Degeneration of cells in the gray matter with increase of neuroglia is also sometimes seen in the cord. The so-called spider cells, on which so much stress was formerly laid, but which are now generally recognized as merely hypertrophied neuroglia cells, may be found in the case of poliomyelitic degeneration, as well as in the cerebrum and cerebellum.

ETIOLOGY.

I have said that the clinical type of any disease in childhood is purer than in adult life. We have seen that this is true of the disease we are considering. The same truth applies to the etiology of any disease, and it is true of the etiology of paresis. The old bogies that for years have been employed to befog the etiology of nearly every long-standing or chronic and more or less inexplicable disease in the adult, vanish in the light of the simple history of similar disease in childhood. Given, therefore, such a chronic and seemingly inexplicable disease, occurring in the child as well as in the adult, I believe that we are safer and on firmer ground for the drawing of logical inferences as to the character and causation of that disease when we study it in the child rather than in later life.

No disease, perhaps, has been so overburdened with etiologic factors as general paresis. This is because it has been studied in adult life and the inferences drawn have been based on cases occurring at this period of life, when such factors are most numerous and at the disposal of any one ready to accept them as the direct exciting causes of the disease. Among these supposedly direct exciting causes of paresis may be mentioned phthisis, alcohol, business worries and cares, the "strenuous life," emotional stress and shock, and sexual excess.

What becomes of these factors when we study the affection in childhood? Surely, as direct exciting factors, we are obliged to eliminate all of them with the possible exception of the first two.

As far as tuberculous processes are concerned, postmortem examinations, in children dying of paresis, rarely show any tuberculous lesion of such location or advancement as to render its influence in the etiology of value. What about tuberculosis in its hereditary relation to the disease? For about fifty years tuberculosis has been steadily decreasing among civilized people, notwithstanding our greater refinement and accuracy of diagnosis. Yet paresis is increasing greatly in prevalence, and particularly among the class least liable to phthisis. Moreover, in those races in which tuberculosis is extremely prevalent, paresis is extremely rare, and the prevalence of phthisis in the antecedents of children afflicted with paresis is no greater than can be obtained in the family history of many other patients.

Were alcohol an exciting cause of paresis, the affection would be much more common than it is in the adult. Moreover, were it a factor through hereditary influence, it would be impossible to explain why general paresis has not been one of the common affections of childhood, for alcohol has been used and abused for many generations. It is, indeed, a question whether its actual abuse was not as great (or greater) a hundred years ago as now. Moreover, there is no constant, or even very frequent, discovery in the organs of adults, dying of paresis, of those organic changes, usually regarded as characteristic of alcoholic excess. Finally, it may be remarked that paresis does not show its greatest prevalence in the class most addicted to extraordinary and long-continued abuse of alcohol. I believe that the frequent history of alcoholic abuse found in the child's antecedents, over and above what might be found in the history of any other disease, is to be accounted for on the basis that it is the ordinary concomitant of a more or less dissolute life, either its cause or effect, and that such dissipation and alcoholic excess merely renders its victims more exposed to risks of the infection that is the ultimate and probably the only cause of the disease we are considering.

Moreover, neither coincidence nor any of the above enumerated, frequently asserted, etiologic factors can explain the extraordinary frequency of occurrence in the patient, or in the other children of the family, or among their antecedents, of incidents or conditions well recognized as the stigmata of well-defined and specific constitutional disease.

When paresis is studied in the adult this mass of convincing evidence is lacking, and what might be of value to us concerning his own personal experiences we frequently fail to obtain, either through ignorance, forgetfulness or design on the part of the patient, on whom we must depend for all data bearing on his case, except the objective features he may present at the moment of our examination. When, however, we have to deal with a child, all the circumstantial and direct evidence, personal, familial and antecedent, is at our disposal for analysis and interpretation. We are not, in other words, dependent on the patient alone for our deduction as to the origin of his disease. The more carefully we obtain the family history of infantile paresis by skilful and exhaustive cross-questioning of the relatives, the more thoroughly we examine the father and mother, and especially the other children of the family, the more convincing will be the evidence that we are here dealing with the late results of a specific constitutional disease, and that that disease is syphilis.

This collateral evidence will consist of the presence, at some time in the life-history of one or both of the parents or grandparents, of conditions whose specific significance is beyond doubt. When we do not obtain from the father direct acknowledgement of syphilitic infection, we may extract from his history the fact that he has at some time suffered from disease of the skin, bones or glands, from alopecia, from nocturnal cephalalgia and osteoscopic pains, from ulceration of the throat or soft palate, or affections of the eyes, especially the cornea, and that these conditions have promptly disappeared on the administration of internal remedies or inunctions. Or we may obtain similar facts from the history of the mother, with the addition, however, in her case, of the valuable evidence afforded by the extraordinary deleterious influence of syphilitic disease on her maternal functions and the lives of her offspring. Repeated unexplained miscarriages, still-births and early infant mortality, or the early appearance in her children of syphilides, pemphigus, obstinate rhinitis, unexplained marasmus, blindness or deafness, and repeated convulsions, often terminating in death, or her statements that two or more of her children have succumbed to hydrocephalus or meningitis, or were at one time afflicted with the same and recovered under treatment, are all of most valuable import. In regard to the patient and the other members of its immediate family I may repeat here what I have already said concerning cerebral syphilis:[2]

> If we can not obtain from the parents information of specific infection in themselves or symptoms of infection in the early history of their child, we must endeavor to find on the body of the child itself some evidence of previous disease, or, failing in this, seek for such evidence in the other children of the family, in the shape of recent or old traces of syphilitic lesions. . . . In not a few instances nothing in the history or examination of the patient or the family will be found to enlighten us in our doubt, but suddenly an interstitial keratitis appears on the scene and yields the clue for which we have vainly sought. Or keratitis may occur in one of the brothers or sisters, or a chance ophthalmoscopic examination may reveal in one of them, or in the patient, evidence of chorioiditis, reminding us that in searching for specific stigmata in the shape of deformities of the teeth and nose, scars about the mouth or in the throat, impairment of hearing, etc., the fundus as well as the cornea of the eye should be invariably examined, in the other children as well as in the patient.

Were syphilis not the important factor in the causation of this disease that the facts show it to be, we should find that there would be no direct ratio between the care with which we search for specific etiologic data and the success that meets our efforts, whereas the ratio is direct and convincing. Our percentage of failures in obtaining such data is not any greater than it is in the history of other patients with conditions whose positive syphilitic character is beyond question.

Finally, in some instances in which the clinical history lacked this specific evidence, the postmortem examination has not only confirmed the diagnosis of paresis, but has demonstrated in organs, other than those of

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[2] Cerebral Syphilis in Childhood, THE JOURNAL A. M. A., March 9, 1907, xlviii, 861; March 16, 1907, xlviii, 922.

A STUDY OF 38 CASES OF GENERAL PARESIS, IN WHICH THE ONSET OCCURRED BEFORE THE COMPLETION OF THE FOURTEENTH YEAR.

	Reporter	Family History*	Specific Stigmata in Child	Age at Onset	Sex	Dur. of Dis. Yrs.	Previous Intellect of Child	Initial Symptom	Condition of Reflexes	Condition of Pupils	Predominant Clinical Symptoms	P. M. Exam.
1	Watson: Arch. Neurol., II..	F. d. of G. P.; M. Syphilitic.	—	14	F	9	Dull..........	Change of character	+	Dilated Fixed =	Loss of memory. Tremor. Disorder of speech and gait. Right-sided convulsions. Restless. Dementia.	Typical.
2	Watson: Arch. Neurol., II..	F. Insane, children Syphilitic.	—	14	M	5	Dull..........	Change of character	+	Dilated Fixed =	Loss of memory. Tremor. Speech. Uncleanliness. Apathy. Dementia.	Typical.
3	Watson: Arch. Neurol., II..	M. d. of G. P. in 42nd year.	+	14	F	4	Very bright....	Change of character	+	Dilated Slow =	Apathy, alternating in fits of passion. Threats of suicide. Hallucinations. Convulsions. Dementia.	Typical.
4	Watson: Arch. Neurol., II..	M. Syphilitic Stigmata.	+	14	F	5	Dull..........	Religious delusions.	+	Dilated Fixed =	Religious hallucinations. Uncleanliness. Noisy and violent at times. Dementia.	Typical.
5	Watson: Arch. Neurol, II..	M. Syphilitic Stigmata.	+	13	F	4	Dull..........	Convulsion	+	Dilated Fixed =	Emotional instability. Apathy alternating in periods of excitement. Hallucinations. Ataxia. Headache. Dementia.	Typical.
6	Watson: Arch. Neurol., II..	M. Syphilitic Stigmata.	+	13	F	8	Very bright....	Change of character	+	Dilated Fixed =	Melancholia. Loss of memory. Exalted delusions. Tremor. Speech. Gait. Optic atrophy. Dementia.	Typical,
7	Watson: Arch. Neurol., II..	M. Syphilitic Stigmata.	+	12	M	6	Very bright....	Failing memory	+	Dilated Slow =	Confusion of ideas of identity, time and place. Tremor. Speech. Gait. Childish exaltation. One convulsion Dementia.	Typical.
8	Watson: Arch. Neurol., II..	M. Syphilitic Stigmata.	+	12	F	4	Dull..........	Mental derangement	?	?	Violent mental disturbances at times. Paralysis and Dementia. Paralytic attacks. Increasing irritabilty.	Typical.
9	Turnbull: Jour. Ment. Sc., 1881.	F. d. of G. P.; M. Epilepsy in preg.	—	10	M	8½	Normal	Hemiplegia	?	Slow =	Progressing mental weakness. Speech. Dementia.	Typical.
10	Nolan: Jour. Ment. Sc., 1883	F. Syphilitic; P. G. of Insane.	+	14	M	4	Normal	Convulsion	+	Dilated Slow =	Progressing mental weakness. Tremor. Speech. Restless. General hyperesthesia. Paralysis. Dementia.	Typical.
11	Strumpell: Neurol. Centralbl., 1888.	F. Syphilitic..........	—	13	F	L	Normal	Monoplegia	O	Fixed =	Right-sided paralytic attacks. Tremor. Speech. Gait. Ataxia in legs. Progressing mental weakness. Dementia.	L.
12	Clouston: Edinburgh Medical Jour., 1891.	F. Syphilitic; P. uncle d. of G. P.	+	14	F	5	Dull..........	Paralytic attacks...	O	Dilated Fixed =	Progressing mental weakness and loss of memory. Gait. Speech. Nystagmus. Convulsions. Dementia.	Typical.
13	Charcot and Dutil: Arch. de Neurol., 1892.	G. of and Gdm. paralyzed; M. Stigmata.	—	14	M	L	Dull..........	Failing memory	+	Dilated Fixed =	Progressive mental weakness. Tremor. Speech. Writing. Attacks of tingling in right leg. Dementia.	L.
14	Wigglesworth: Jour. Ment. Sc., 1893.	M. Syphilitic Stigmata.	—	11	F	5	Normal.......	"Weakness" in legs.	?	Dilated O. K. =	Progressing mental weakness. Tremor. Speech. Paralysis wth contractures. Dementia.	Typical.
15	Wigglesworth: Jour. Ment. Sc., 1893.	Unknown..............	—	14	F	5	Normal.......	Change of character	+	Dilated Fixed =	Apathy. Semi-stupor for months. Progress mental weakness. Tremor. Speech. Dementia.	Typical.
16	Westphal: Charité-Ann., 1893.	M. G. P. after patient..	+	12	F	3¾	Normal.......	Pains in legs and failing sight.	O	Dilated Fixed =	Hallucinations of sin committed. Suicidal impulses. Morbid fears. Optic atrophy. Spasms. Paresis.	Typical.
17	Gudden: Arch. f. Psychiat., 1894.	P. and M. relatives insane.	—	14	M	4½	Dull..........	Writing.............	+	Dilated Fixed =	Transposition of syllables in writing. Tremor. Speech. Paralytic attacks. Optic atrophy. Dementia.	Typical.
18	Voisin and Reudeu: Soc. d. hôp. de Paris, 1906.	Unknown..............	+	12	F	3½	Feeble	Cessation of mental advance.	+	?	Decrease of intelligence. Periods of maniacal excitement, alternating in lethargy. Speech. Dementia.	Typical.
19	Thomson and Walsh: Brit. Med. Jour., 1899, I, 781.	1st, 3rd, 5th and 6th children syphilitic; parents well.	+	11	F	6	Normal........	Cessation of mental advance at school.	+	Not dilat. Slow =	Failing intellect. Convulsions at 12. Ki° + at 12½. Speech at 13. Hallucinations at 14. Tremor. Gait. Headache. Memory for multiplication table and figures long retained.	Typical.
20	Thompson and Dawson: Lancet, 1895, I, 397.	M. uncle Insane; F. and M. well; 1st ch. Hydrocephalic; 2nd and 3rd stillborn.	—	10¾	F	2½	Very bright ...	Cessation of mental advance at school.	Nor.	Not dilat. Slow =	Failing intellect. Tremor. Speech. Writing. Gait. Psychical, visual and auditory hallucinations. Attacks of screaming and laughing. Several brief remissions. Final contractures. Dementia.	Typical.
21	Cameron: Review Neurol. and Psychiat., 1803, I.	Brother with specific teeth.	—	13½	M	6	Normal.......	Failing memory, change of charact.	+	=	Failing intellect. Periods of mania. Screaming especially at night. Gait. Muscular weakness and unsteadiness. Dementia.	Typical.
22	Toulouse and Marchand: Soc. d. hôp. d. Paris, 1899	F. d. of G. P............	—	10	F	5	Normal.......	Failing memory....	+	Dilated =	Decrease of intelligence. Tremor. Speech. Ataxia. Convulsions. Nocturnal excitement. Contractures. Dementia.	Typical.
23	Haushalter: Ann. de dermat. et de syph., 1897.	Negative............	+	10½	F	1½	Normal.......	Indiffer. to father's death; ch. of char.	?	Dilated Slow =	Loss of "joyousness" and neatness. Decreasing intelligences. Tremor. Speech. Gait. Muscular weakness, but no paralysis.	Typical.
24	Haushalter: Ann. de dermat. et de syph., 1897.	F. Syphilitic; M. Stigmata.	—	12	M	½	Normal.......	Failing memory	+	Dilated Slow =	Awkwardness. Speech. Gait. Tremor. Dulness. Recurrent headaches. Dementia.	Typical.
25	Haushalter: Ann. de dermat. et de syph., 1897.	F. Syphilitic; M. Stig mata.	—	8	M	L	Very bright ...	Change of character	?	Dilated Fixed =	Narcolepsy. Change of disposition. Awkwardness. Tremor. Speech. Gait. Writing. Depression alternating with excitement.	L.
26	Bresler: Neurol. Centralbl., 1895.	M. Insane: Gdm. Insane; M. Aunt Insane.	—	10	F	4	Normal.......	Cessation of mental advance at school.	+	Dilated Slow =	Change of disposition. Restlessness. Fears. Gait. Alternating apathy and excitement. Inarticulate speech. Indifference to environment. Slight left facial paresis. No tremor. Four convulsions near the end.	?
27	Woltär: Prag. med. Wochenschr., 1805.	M. had G. P. (at same time.)	—	8	M	1	Normal.......	Cessation of mental advance at school.	+	Dilated Fixed =	Decreasing intelligence. Uncleanliness. Tremor. Speech. Gait. One-right-sided spasm without unconsciousness.	Typical. (Macroscopically)

28	Hoch: *Journal Nerv. and Ment. Dis., 1897.*	F.?Cerebrospinal syphilis S. had G. P.	—	10	F	6	Normal.......	Apathy.............	?	?	Loss of desire to play. Lethargy. A year later staggering and muscular. Paralysis. Dementia. Sister with all typical symptoms from fifteenth year onward; + reflexes, fixed, dilated, unequal, pupils, etc.	Typical.
29	Dunn; *Journal of Ment. Sci., 1895.*	Negative..............	?	9¾	F	2	Normal.......	Change of character	Nor.	Dilated Fixed ≂	Decreasing intelligence. Depression alternating with excitement and causeless emotion. Speech. Uncleanliness. Five months before death convulsions, *chiefly right-sided, followed* by transient paresis. Dementia.	Typical.
30	Carpenter: *Rep. Soc. of Dis. of Children, 1901.*	Negative..............	+	10	F	L	Normal.......	Change of character	+	Fixed =	Became lost all one night. (*Loss of orientation*). Tremor. Headache. Apathetic contentment changing to periods of screaming and weeping when disturbed. Visual hallucinations of pleasant character. Gait, slightly spastic.	L.
31	Stewart: Brain, 1898	M. Stigmata...........	—	13	M	4	Very bright....	Failing memory	+	Dilated Fixed ≂	Decreasing intelligence. Increasing apathy. Two years later, convulsions. Hallucinations (visual). *Tremor. Speech. Gait.* Apathy with occasional bursts of passion.	Typical.
32	*Stewart: Brain, 1898*.......	M. Stigmata; 1 child Syphilitic.	—	12	M	L	Very bright....	Failing memory	+	Dilated Fixed ≂	Trembling *in face and hands, at first only* when spoken to; later spontaneous. Speech writing. Gait.	L
33	Stewart: *Brain, 1898*.......	M. *Stigmata*; 2 children Syphilitic.	—	14	M	L	Very bright....	Failing memory	Nor.	Dilated Fixed ≂	Theft of useless objects. Tremor. Speech. Gait. Uncleanliness. Excitement.	L.
34	*Marr: Lancet, 1899, II, 838..*	P. Gdm, d. Insane; M. d. Insane, prob. G. P.	—	6	F	8½	Normal.......	Restlessness	+	Dilated Slow ≂	Destructive. Tremor. Gait. Uncleanliness. Committed to asylum when 10 years old. Choreiform movements. Contractures. Dementia.	Typical.
35	Hirchl: Wien. klin. Wochenshr, 1901, p. s. 515.	F. d. of Cerebral Hemorrhage; *M. pupils* fixed, and stigmata.	+	13	M	8	Dull	Cessation of advance at school.	+	Dilated Fixed ≂	Decreasing intelligence. Tremor. Speech. Writing. Apathy. Extreme emaciation. Cessation of physical growth. Dementia.	L.
36	Infield: Wiener klin. Wochenschr, 1895.	Unknown....	+	11	M	6	?	Convulsions	+	Fixed ≂	Epileptiform attacks. Tremor. Speech. Gait. Writing. Uncleanliness. Cessation of physical growth. Dementia.	L.
37	Bristowe: Brit. Med. Jour., 1893, II, 1099.	Unknown...............	?	10	M	4	Normal.......	Cessation of mental advance at school.	+	? ? ≂	Decreasing intelligence. Paralytic attack with left hemiplegia. Tremor. Speech. Gait. Dementia.	Typical.
38	*Fairbanks: l. c.*...........	F. d. of G. P.; M. Stigmata.	+	12	M	3	Normal.......	Irritability.........	+	Dilated Fixed ≂	Narcolepsy. Tremor. Speech. Writing. Gait. *Headache. Parasthesia and spasms in left face and leg.* Frequent causeless laughter. Dementia.	Typical.

*M., maternal; gdf., grandfather; gdm., grandmother; d., died; =, equality of pupils; ≂, inequality.

the nervous system, unequivocal lesions of syphilis. If we make our search ever more rigid and exhaustive, we shall steadily reduce the still remaining small percentage of cases in which specific evidence seems to be entirely wanting, and we shall reach the eventual and inevitable conclusion that syphilis is the one and sole direct cause of this disease, as was asserted by that clear and accurate observer, Fournier,[3] years ago.

General paresis is not more common in children mentally defective from birth. The majority of cases occur in children of average mental ability previous to the onset of the disease.

The "stress of puberty and adolescence" has been thought by some to be of importance in the determination of the onset of juvenile paresis. There can be no question but that, at the present time, the majority of cases seem to have their origin at about this period. We are dealing, however, with a so-called parasyphilitic affection requiring ordinarily from ten to fifteen years to develop. As the specific infection is inherited or, as may rarely happen, acquired very shortly after birth, the age of puberty is about the time when we should expect the advent of the disease. Its incidence at this period is due, I believe, to this fact and not to any peculiar influence offered by this period of life in the determination of the onset of the affection.

Of great interest is the frequent occurrence of similar disease in the other members of the family, especially in the parents or grandparents. Often when we do not obtain a positive history of the occurrence of paresis or tabes in others of the family we shall learn of cases of "dementia." "brain trouble," "insanity," etc., which would undoubtedly prove to be general paresis if we could learn all the particulars. In many cases not included in my summary on account of the age of onset having slightly exceeded fourteen years, this same occurrence was very striking.

In a relatively large number of instances injury in one form or another is assigned by the relatives as the cause of the onset of the disease. In this connection I may repeat here what I have already said of similar occurrences apparently preceding the onset of cerebral syphilis,[2] in which the same fact is often noticed:

> What is it that induces in one case the concentration of the effect of the specific poison on the brain while another individual enjoys complete immunity from any cerebral implication? This is a problem to which no complete solution is at present possible. Interesting, however, in this connection are a number of cases in which the apparent initial phenomena have followed a blow or a fall on the head. They are not so common that we may refuse to believe them more than coincidences, occurrences brought into the picture by the common tendency of the parent to attribute everything to an accident. Nevertheless they can not be entirely ignored. It may be that, in the one case, the brain by inherited or by acquired deficiency in vitality or in power of defense, becomes a *locus minoris resistentiæ*; while, in another instance, concussion by its circulatory and nutritive disturbances produces a similar condition.

Paracelsus says: "Syphilis takes, in every man, the character of that disease to which he is inclined by hereditary or other predisposition."

I present here a condensed summary of thirty-eight instances of general paresis occurring well within the period of actual childhood. Not only are these cases, from a clinical standpoint, unquestionably typical instances of the disease, but in twenty-nine, or 76 per cent., we have the pathologic diagnosis to confirm the clinical. A study of these cases will afford an absolutely accurate idea of the affection as it manifests itself in childhood.

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[3] La syphilis héréditaire tardive, 1886.

I offer this tabulated summary, therefore, without further comment, for the consideration of all who may be interested in the subject, but who may not have the time or the facilities to study the matter in the original articles.

It is my duty and pleasure to express how deeply I am indebted to those who have reported these cases, for the free use I have made of their material. To many others not here mentioned I am equally under obligation.

ABSTRACT OF DISCUSSION.

Dr. Samuel J. Walker, Chicago: General paresis in childhood is, of course, extremely rare. About 70 per cent. of the cases in the adult can be traced to a previous syphilitic history, and in childhood, so far as I know, all the cases reported have shown a history of congenital syphilis. In childhood the type of the disease is purer, as many things that may creep into the cases in the third and fourth decade of life are practically excluded in childhood. Dr. Fairbanks said that he saw this case two years after the onset. Had the case been diagnosed as general paresis before he saw it? If not, what did the parents think was the trouble with the child and what was the diagnosis of the physicians who had seen it? As to the pupillary findings in the adult type—and it is almost necessary to speak of the adult type in paresis—one of the earliest somatic signs is partial or complete Argyll-Robertson pupil. This is one of the earliest and also most frequent signs. It is true that paresis and cerebral syphilis are usually the only conditions that have to be differentiated, but as the condition advances the case clears up as to diagnosis. Some years ago I saw a case of cerebral tumor not associated with optic atrophy. The mental symptoms were very like the symptoms in general paresis and not until the very last, when optic neuritis developed, were we even fairly certain of a diagnosis. The postmortem showed a tumor the size of an egg in the frontal portion of the brain.

Dr. Arthur W. Fairbanks, Boston: The case had apparently not been diagnosed before I saw it. The patient was brought to me at the Children's Hospital, and the parents probably had an inkling of the condition. The family history of the boy was what I think gave the mother an idea of what was happening. The father had died in an insane hospital with a diagnosis of organic dementia four months before the child was seen. The postmortem revealed diffuse arteriosclerosis including the basal vessels of the brain. It was not stated whether it was specific or not. In this case there was a perisplenitis and a perihepatitis. The mother gave no specific history as to rashes, miscarriages, etc., but the family physician stated that several years before she had come to him with an obstinate ulcer of the leg and two years later with iritis; neither trouble would yield to anything but the administration of potassium iodid. A sister of this boy is defective mentally and has an acquired strabismus. I think that there can be no question but that here we have a specific origin for this disease. The pupils were dilated markedly, and while one would slightly respond at first, later it became fixed and remained fixed for the rest of the child's life. I think that a tumor would have to be in a very peculiar location, as was Dr. Walker's, to confuse the diagnosis. It is true you do get the changed character, as in paresis, but you also get vomiting and an optic neuritis, which you do not get in paresis. Then the focal signs would point to a localized lesion of the brain. Occasionally, when the optic neuritis and vomiting are absent, it might for a brief time obscure the diagnosis, but not for long. In the synopsis I have here of these thirty-eight cases, all well within the period of childhood, you will notice the extreme family syphilitic history. It is very striking. Sometimes there is no outward evidence of stigmata in the patient. One should then examine the brothers and sisters, and examine the fundus as well as the external eye. Then one may find iritis or chorioiditis.

MERCURIAL TREATMENT FOR THE LATE MANIFESTATIONS OF SYPHILIS.*

HERMANN G. KLOTZ, M.D.

NEW YORK.

THE HISTORY OF THE TREATMENT OF SYPHILIS.

Syphilis had hardly been introduced into civilized Europe, when mercury offered a helping hand in the treatment of the new disease. As early as 1497 Gaspardo Torella, an Italian physician, recommended mercurial ointment. This early external application of mercury probably was not merely accidental, as some authorities would imply, but due to the fact that mercurial ointments had long been in use against all kinds of skin diseases, having been first introduced into practice by the Arabian physicians in the twelfth century. As the principal and most obvious symptoms of the new disease were pustules, ulcers and other lesions of the skin, it was quite natural that the customary remedies for skin diseases should be applied.

Following the reckless abuse of mercury during the earliest period, when the treatment of syphilis was not generally in the hands of the better class of physicians, the vegetable decoctions for a short time superseded it under the guidance of the knight-errant Ulrich von Hutten, who sang the praise of guajac. But soon mercury was again recognized and firmly established as the only and true specific of syphilis, a position which it maintained without difficulty from the middle of the sixteenth to the early part of the nineteenth century.

During the early periods the use of mercury was entirely restricted to external applications, mostly ointments, but also plasters and at times fumigations; about 1535 Pierre-André Mathiole initiated the internal treatment with the red oxid of mercury, but the medication per os did not become popular until towards the end of the sixteenth century. During the following century many new preparations for internal use were introduced, among them numerous secret ones; later Van Swieten's liquor, a solution of the bichlorid, gained much favor; the protoiodid, first recommended by Biett and much favored by Ricord, was widely adopted in the early part of the nineteenth century. Inunctions retained their place beside internal treatment, but were conducted in a much safer and more reasonable manner than in the beginning.

In the eighteenth century, following the unfortunate deception of John Hunter, the identification of the three venereal diseases, gonorrhea, chancroid and chancre, was responsible for another period of too ardent use of mercury, and there appeared a more decided antimercurialistic tendency, at first in Great Britain, later also in France and Germany. Adversaries of mercury had existed from the beginning, primarily, probably, on account of its influence on the salivary organs.

That external applications could produce salivation had been known to Teodorico of Bologna and Guy de Chauliac as early as the end of the thirteenth and the beginning of the fourteenth century. Probably owing to the usual coincident appearance of salivation with the marked improvement of the symptoms of the disease, soon the opinion began to prevail that salivation was really beneficial and, in fact, essential to a cure. This theory persisted almost without any contradiction until the end of the seventeenth century, when David Abercromby, in 1684, was the first to formally declare that salivation was not necessary to obtain the favorable effects of the drug. It was a long time before the old doctrine lost its hold on the medical profession in general, and it is by no means extinct now; one still meets in the periodical literature and even in text-books the hardly disguised or concealed opinion that a certain amount of salivation is more or less desirable or unavoidable and necessary during mercurial treatment. It surely is found frequently enough on patients with, but more commonly without, the beneficial effect on the disease itself. But besides the well justified dread of salivation there has always existed a not so well explained fear of some mysterious and mischievous power of mercury which would render it a most dangerous drug. In spite of the long-established fact that the symptoms of real mercurial poisoning are entirely different from those occurring in the course of syphilis, and in spite of the easily obtainable proof that mercury is more or less rapidly eliminated in measurable quantities in the urine, the saliva and the feces, there still lingers to-day, not only among the laity but even among members of the medical profession, the idea that mercury will remain indefinitely in the bones or somewhere else in the body. Many physicians who shrink with horror from the idea of administering one and a half grain of calomel by an injection, would not hesitate for a moment to prescribe one or even two ounces of iodid of potassium daily.

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* Read in the Section on Cutaneous Medicine and Surgery of the American Medical Association, at the Fifty-ninth Annual Session, held in Chicago, June, 1908.

*The conclusions are based on practical experience, but the demonstration of the effects of mercury on the *Spirochæta pallida* and of the presence of the latter in the late products of syphilis apparently explain and justify the same in theory.

It was then quite natural that a constant search should go on for another, less objectionable, specific for syphilis. But all efforts had failed until in 1836 Wallace of Dublin introduced the iodid of potassium in the therapeutics of syphilis. Its success was remarkable; no objection whatever was raised to it and it was at once accepted with favor by the practitioners and generally approved by eminent syphilographers of that time like Ricord. The physician who had been afraid of mercury could now quiet his conscience by treating his patients with the new, apparently harmless, remedy. Not all the high expectations, however, were fulfilled; it soon became apparent that iodid could not entirely supersede mercury and that its best effects were obtained in combination with the latter.

THE LIMITATIONS OF THE IODIN TREATMENT.

I do not wish to enter here into a discussion of the much mooted question whether iodin has any really curative influence on the disease and its causative agent itself, or, as some authors believe, only disposes of the symptoms by promoting absorption of the pathologic products and by eliminating toxins. To be candid, we are, or at least we were until quite recently, in the same position with regard to mercury, but in the light of recent discoveries it seems highly probable that mercury has a direct restraining or destroying influence on the spirochete.

It soon became apparent that the later or so-called tertiary symptoms offered a more favorable field for the iodids than the early or secondary ones. I must say that in my own experience I often find iodid of great value in certain early conditions, particularly in some affections of the throat. This preference of iodid for the tertiary stage soon became widespread, and gradually the rule has crept in and has become more or less generally established that in the later stages of syphilis the iodids *are absolutely necessary for a cure, and that they alone* should be given and mercury be entirely discarded. This doctrine has all along been disputed and condemned by eminent students and men of great experience in the treatment of syphilis like Virchow, Ricord, Mauriac and, among others, by that industrious student of syphilis, the late Robert W. Taylor. Still, this arbitrary rule, as he called it, continues to be proclaimed by the authors of text-books; it is continuously met almost as beyond dispute in the periodical literature; and it is evidently almost generally followed in the daily practice of thousands of members of the medical profession. In fact, the belief is so deeply rooted in the mind of the majority that any attempt to throw doubt on its correctness will be looked upon as arrant heresy.

In general, the tertiary and gummatous manifestation of syphilis offer a much better criterion for the effectiveness of a certain remedy or method of treatment than the earlier, secondary ones, because, as a rule, they do not possess the inherent tendency to improve or to disappear spontaneously, which, to a certain extent, is present in the earlier, principally the more generalized, eruptions; they are rather progressive and increase or advance unless checked by treatment. The various late manifestations, however, show decided differences of character and development; ordinarily we associate with the gumma or the gummatous infiltration the more or less pronounced tendency of the newly formed tissues to break down and undergo degenerative changes, leading to absorption or to destruction.

There exist, however, later products of syphilis which do not have such a tendency, but are considerably persistent and resistant. I am not speaking of those conditions which now are usually designated as parasyphilitic, but of quite distinctly specific and substantial affections of various organs in which the prevailing tendency is to form new, rather firm, often almost sclerotic tissue. Such late syphilitic processes are observed in almost all viscera, sometimes side by side with really gummatous products, as in the liver, the kidney, the lungs, the adrenal glands; they occur in the testicles, in lymph glands, in the bony structures, preferably in the central and the peripheral organs of the nervous system, including the sensory organs, and finally in the blood vessels, not only of the brain, but also in the large trunks, in the arteries and probably the veins of the extremities and in small terminal vessels. In fact, the origin of all these products of syphilis seems to be ultimately connected with the blood vessels. The skin, the subcutaneous and submucous tissues, as well as the mucous membranes themselves, which furnish a large percentage of the secondary and also of the more common gummatous formations, are less frequently the seat of these more persistent formations; they may, however, appear here and on the bones in the shape of real tumors. There must also be mentioned the mostly unilateral, late scaly affections of the palms, soles and occasionally of other portions of the skin. All such cases present a more or less pronounced resemblance to similar conditions of entirely different origin; they therefore are liable to offer the greatest difficulty to the establishment of a correct and sure diagnosis. They frequently give rise to mistakes in treatment, particularly to the performance of not only unnecessary but absolutely harmful operations. The late Professor von Esmarch was candid enough to publish some years ago a report of a number of cases in which the syphilitic nature of the affection was recognized only after the operation and in some instances only after the recurrence of the growths. Naturally the patients under such circumstances are often submitted to the test of therapeutics, and on the result of the tentative treatment future proceedings will depend.

Now all lesions of this kind are more or less refractory to all treatment, but in the majority of cases they are not at all or but slightly affected by iodids alone, even in the large doses commonly given in our country; they are likewise resistant to the so-called mixed treatment. But the partisans of iodid will retort that they are not affected by mercury alone either. This, I freely concede, is true in regard to the methods of mercurial treatment heretofore principally in use. The pills of the protoiodid which seem to be the great favorite in our country, are practically inert in such cases. Solutions of the bichlorid, which are much less used than they deserve, and the mixed treatment may produce an improvement or an apparent cure, but mostly only a temporary one, soon followed by a relapse. Inunctions, even if made correctly and with all the accessories which are necessary to obtain the full benefit, are often enough ineffective, but much more so if they are made in the slipshod way only too common among patients who are not willing to change their often very unhygienic ways of living.

INJECTIONS OF MERCURIAL SALTS.

Mercurial treatment, however, has entered on an entirely new phase by the introduction of the hypodermic and intramuscular injections of soluble salts, and even more, of the insoluble salts and of the gray oil and similar substances. It might seem as if there could be but little difference in the therapeutic effects between the frequently repeated injections of soluble salts and the intramuscular injections of insoluble ones, made at longer intervals. It had been assumed that the latter furnish a deposit of mercury on which the organism gradually draws in small amounts until the deposit is nearly exhausted, when a new supply is furnished. But recent investigations, particularly those made under the auspices of Jadassohn by Emil Buergi of Berne,[1] have shown different conditions. It appears that subsequent to an injection an increased amount of mercury is at first eliminated in the urine and after about two days becomes reduced; evidently, then, during the first days following the injection a large amount of mercury must circulate through the blood so that we actually receive from the injection a single large dose of mercury, much larger than it is possible to introduce by any other method; and during a series of injections we have a number of such inundations of the entire system with the drug, a number of mercury storms, if you please. At the same time the entire amount of mercury consumed is much smaller than with other methods. For instance, if during the entire course of treatment within, say, two years, a patient receives altogether fifty injections of 10 centigrams of the salicylate of mercury which contains about 59 per cent. of metallic mercury, the total amount of the metal entering the body will amount to 2.95 grams, or about 47 grains. With calomel, which contains 84 per cent. of mercury, the total amount would be less than 68 grains for fifty injections, but ordinarily a smaller number would probably be required. Attention must also be called to the fact, so far not fully explained, that according to S. J. Meltzer and Auer,[2] the conditions of absorption in the muscle tissue are more favorable than in the subcutaneous tissue and very near to those of injections directly in the veins. The widespread use of these injections in Europe has certainly demonstrated beyond doubt that the human organism can stand much larger doses of mercury than formerly had been employed and that could safely be introduced through any of the older methods.

It has also been made evident that in many cases of syphilis such large doses are required in order to obtain the desired results, that conditions which heretofore had remained unaffected by any specific treatment and therefore had not been considered specific any longer, now have to be accepted as such. These facts have been insisted on by numerous authorities, principally in France by Leredde and others, and quite recently have led to the recommendation of a "plurimercurial" treatment by Jaquet,[3] consisting of the simultaneous administration on the same day of pills of the protoiodid by the mouth, Van Swieten's liquor by rectal injection, the intramuscular injection of one centigram of the biniodid and the inunction of two grams of blue ointment. These applications are to be repeated on several days in succession and to be taken up again after a more or less extended interval. Without commending such exaggerated treatment, I must insist that the intramuscular injections of insoluble salts have come into such general use all over the entire European continent and, if I am not mistaken, lately also in Great Britain, that an immense number of observations is in existence which prove that these energetic applications of mercury exert a much greater influence on the late manifestations of syphilis, not only on those which heretofore mostly yielded to iodids alone or in combination with mercury, but also on those more solid formations of which I have spoken before. The practice of these injections is now and has been for years so common that one hardly finds now any special articles on the subject, but whoever peruses the current literature, even to a moderate extent, will meet numerous examples of cures effected by injections when iodids and inunctions had failed, even in the hands of experienced men, particularly in cases of affections of the nervous centers.

To mention only a few recent publications, in a paper on "Experience with the Treatment of Disturbances of the Nervous System on a Syphilitic Basis," by W. Harttung and O. Förster[4] of Breslau, the former reports cases of paralysis, etc., the latter cases of incipient tabes; and V. Mucha, from the clinic of Finger, in a paper on "The Differential Diagnosis Between Lues and Tuberculosis in Ulcerative Processes,"[5] reports several cases in which injections of the salicylate effected sufficient improvement to assure the diagnosis of syphilis which the histologic examination had not been able to clear up. It is, however, almost generally agreed that the most energetic action is obtained from the injections of calomel.

I must mention also a paper which was quite recently published in this country on "The Diagnosis and Treatment of Syphilitic Lesions of the Nervous System,"[6] by T. H. Weissenburg of Philadelphia. He says:

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[1] Arch. f. Dermat. u. Syph., 1906, lxxix, 3305.

[2] Jour. Exper. Med., 1905, vii, 59.

[3] Hirigoyen, D.: Thèse de Bordeaux, 1907.

[4] Arch. f. Dermat. u. Syph., 1907, lxxxv, 1.

[5] Arch. f. Dermat. u. Syph., 1908, lxxxix, 355.

[6] Am. Jour. Med. Sc., April, 1908, cxxxv, 531.

> It has been my experience that, whenever any benefit has been obtained, it has been the result of the use of mercury and not of iodids. Even in the specific manifestations which come on many years after the infection, mercury is the only drug which will be of benefit. Iodids probably do good, and should be given in conjunction with the mercury, or, better still, after the mercurial treatment.

It is hard to understand why it should be given at all, if mercury, as stated, is the only drug which is of benefit; the recommendation can be explained only as a concession to the prevailing popular sentiment in favor of the iodids, although it seems that many physicians consider it necessary to follow up every administration of mercury by a course of iodids in order to get rid of the mercury as quick as possible—evidently another consequence of that deadly fear of it. I must not omit to mention that Weissenburg recommends the use of inunctions, but I have no doubt that he would be glad to use the insoluble injections if he would only try them in spite of the prejudices against them in America.

My experience with intramuscular injections agrees with that of others who have learned to trust to mercury in the late manifestations. I have used them constantly for about twenty-five years, and after giving a report[7] on the first two hundred injections in 1889 have applied them more and more within the last years, after an extensive previous experience with soluble preparations, the bichlorid and the bicyanid. Several times I have been tempted to return to soluble injections like the strong solutions of the bichlorid as recommended by Lukasiewicz, which were extremely painful and caused much local swelling, solutions of the oxycyanate, mercury salicylarsenate, etc., but I have always quickly returned to the insoluble ones, which I find acting more favorably and having fewer objectionable features. Encouraged by the excellent results in the earlier stages of syphilis, I began to use the injections in the later manifestations when the iodids or the mixed treatment gave results which were unsatisfactory, or as was more frequently the case, not lasting, particularly in the tubercular syphilides. My experience has gradually induced me to trust to the injections alone much more than to the iodids, and I have more and more dispensed with the latter, without, however, giving them up entirely.

I shall not attempt here to give any detailed or specified histories of cases. I shall only state briefly that in the course of years I have treated with injections of the salicylate and to a certain extent of calomel the most various manifestations of syphilis, not only the more frequent gummatous affections of the skin and of the mucous membranes but periostitis and tophi of the cranial and other bones, at times in a condition when a breaking down of the integument seemed unavoidable, affections of the nervous centers and of the eyes, particularly iritis, paralysis of the muscles, neuritis optica, usually at the instance and under the supervision of ophthalmologists, gummata of the tongue and of the lips, swellings of the lymph nodes, gumma of the testicle, late scaly affections of the skin, among them one which appeared on the fingers of the right hand after eighteen years and finally yielded only to calomel injections, gumma of the muscles and syphilitic arteritis. The results at times have been really marvelous, exceeding my keenest expectations; usually very satisfactory; and seldom actually disappointing, although I am far from claiming that the injection will be successful in all cases. In many instances I have been able to watch the further progress of the patients for years, and I have never observed any disastrous or even disagreeable consequences.

The injections of calomel have been the particular object of abhorrence to the adversaries of the insoluble injections. In fact, they are more liable to cause some local inconvenience; circumscribed subcutaneous swellings or nodules, as a rule painful only on pressure, are not so rare as after the salicylate, but these swellings have not the tendency to break down or to leave any outward marks; the general symptoms, slight malaise or fever, usually appear in a slightly more aggravated degree, somewhat later than after the salicylate and of longer duration. In a large number of cases, however, the general and local effects were not aggravated and at times entirely absent.

In some instances I have indeed found a greater tolerance of calomel than of other preparations. Thus, in two cases in which the injections of the salicylate caused diarrhea with tenesmus, calomel did not cause the slightest disturbance of the bowels, although in the one case a large quantity of sugar was present in the urine. In a case of a chronic albuminuria, soon after an acute exacerbation of an old nephritis which antedated the syphilis infection, the albumin entirely disappeared during the treatment of a gumma of the testicle with calomel injections. I have felt encouraged to make these perhaps somewhat hazardous trials by the confidence which long experience has created, but I do not advise others to repeat them until they have obtained sufficient experience and know all the safeguards.

The intramuscular injection of the insoluble preparations from the begining have in this country met a widespread and bitter opposition which must remain unaccountable to anybody who has approached the new treatment without bias and has tried it for a reasonable time. As a rule the physicians of our country are by no means averse to taking their cue from European teachings; on the contrary, many things in theory and practice are accepted and adopted solely on the strength of their European origin and recommendation. Still, this method which has been practiced in all the countries of the European continent for more than twenty years, which has become the favorite and is recognized as the most efficient one by almost all syphilographers of renown, is hardly mentioned or is peremptorily condemned and depicted with such horrible colors by the authors of textbooks and prominent teachers in colleges and universities, that students could hardly help considering its use almost a crime.

What will such students think of their teachers if across the street in a dispensary they find younger men using insoluble injections without fear and with excellent results, or if going to the European centers of teaching they see the intramuscular injections universally employed and acknowledged without dispute as the most efficient treatment? It certainly seems to be the duty of teachers to give to such a treatment a sufficient, unprejudiced trial, preferably in a hospital under careful observation, before condemning it as unscientific, mutilating, ineffective and dangerous to health and life. Still at last year's meeting several men who strongly opposed this treatment have directly stated that they had never made an injection of an insoluble salt. Of course, each man is responsible for his actions to his own conscience, but by the failure to apply other well-known methods if the usual ones fail, he deprives his patients of the benefit of a treatment which has long ceased to be an experiment.

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[7] Jour. Cutan. and Genito Urin. Dis., 1890, vii, 41, 98.

I can not permit a method to be called unscientific which employs the smallest amount of mercury to obtain the greatest results, a method in which you know exactly the amount introduced and in which you may trace within a few weeks up to 30 per cent. and more in the urine, a method in which every bit is actually absorbed and in which the conditions for absorption are favorable. Or does anybody mean to assert that the inunction method is more scientific, when we not even know exactly whether the mercury is principally introduced through the skin or through the lungs? I cannot admit that because among hundreds of thousands of injections in a few cases several local troubles have occurred, the injections are mutilating. The worst result I have ever seen was a superficial circumscribed gangrene of the skin and subcutaneous tissue which I have conscientiously reported,[8] without being able to explain its immediate cause. I have only once since the first three months had any abscess after I had begun to make the injections. That was in two dispensary cases in which probably the injection fluid was at fault, for after throwing it away no other abscesses followed. Even when they occur, as a rule, they are aseptic, and not very acute or very painful. In contrast to the frequent affections of the oral cavity and the gums during internal treatment, inunctions and soluble injections, the almost entire absence of salivation and of every disturbance of the gums, particularly during salicylate injections, has always been a great and pleasant surprise. It has been one of the most cogent reasons for the now almost regular employment of the treatment. I have nothing more to say on the subject of the efficiency of the treatment.

As to the dangers resulting to health and even life, I admit that under exceptionally unfavorable conditions the intramuscular, insoluble injections are liable to become the cause of death in the very same degree as soluble injections, inunctions, fumigations and internal administration, applied with all necessary and known precautions. Cases of fatal consequences of all these methods can be found recorded in literature, but since the method has been better understood than it was in the beginning, not more frequently after insoluble injections than after treatment with the soluble salts.

Two accidents, however, are likely to occur: diarrhea (colitis) with tenesmus, and embolism of the lung. I have had experience with both, and, while I admit that they are very annoying complications, they are not really dangerous and do not permanently impair the health. The intestinal symptoms at times seem to be due to an incidental indigestion or neglect of common rules of diet, but usually appear as the effects of idiosyncrasy after every injection, even in reduced doses. The peculiar experience with calomel I have mentioned before. The trouble rarely lasts longer than twenty-four hours; it occurs oftener after the bichlorid and the oxycyanate than after the insoluble salts. I have published my experience with embolism of the lung[9] in 1898; since then I have seen only a few more. None of the patients was seriously sick at any time, they all recovered in a few days without any further trouble. I do not believe that embolism can be entirely avoided even with all the precautions that have been advised, like the removal of the syringe before injection. Altogether, I have long come to the conclusion that the beneficial effects so far outweigh the disadvantages that I am willing to take so much risk for the benefit of my patients, and I have usually found the patients ready to do the same thing.

It has been mentioned as a drawback that the patient has to be seen by the physician more frequently. This objection applies much more strongly to the soluble injections which have found so much favor with some men who so strongly object to the insoluble ones. I believe that the necessity of regular visits is rather an advantage. It certainly is not safe and correct to allow a patient to continue internal treatment or inunctions indefinitely without regular observation by the physician, as is quite often done. Soluble injections are generally quite painful immediately after the application, for one-half to two hours, are made every day, while the seat of the insoluble ones is really painful only on pressure or during movement for about thirty-six hours. The best proof that the patient does not suffer so cruelly as has been asserted is the fact that some have been perfectly willing to stand from fifty to sixty injections. As a rule, I have found patients neither cowards who were not willing to stand some discomfort or even pain, nor such fools that they did not recognize the advantages and the conveniences of the method.

CONCLUSIONS.

The following conclusions embody the points which I wish to emphasize:

Tertiary or late manifestations of syphilis can usually be as successfully treated by mercury alone as by iodids alone or in combination with mercury. In many instances they are influenced by strong mercurial methods when iodids and mixed treatment have failed. It is therefore advisable, in clearly syphilitic manifestations, not to cease specific treatment, and in doubtful cases not to dismiss the diagnosis of syphilis until such strong mercurial treatment has been sufficiently applied as offered by the intramuscular injections of insoluble mercurial preparations, of which calomel is the most reliable one.

These statements I do not ask you to accept without your own investigation; I ask you to subject them to a fair and unbiased trial. I am well aware that not all such cases of syphilis come under your observation, but that some are in the hands of general physicians or surgeons or of specialists, particularly neurologists, laryngologists, ophthalmologists and others, and that my statements ought to have been made before a general medical audience. It seems to me, however, that general practitioners as well as specialists will look for their guidance to those who make syphilis a subject of their special studies, and that they are not likely to adopt a treatment until it has been approved or at least has been brought to the knowledge and laid before the judgment of the syphilologists.

The conclusions are based on practical experience, but the demonstration of the effects of mercury on the *Spirochæta pallida* and of the presence of the latter in the late products of syphilis apparently explain and justify the same in theory.

130 West Fifty-eighth Street.

ABSTRACT OF DISCUSSION.

Dr. J. M. King, Nashville: I think we fail many times to relieve severe and malignant cases in the late stages of syphilis, because we do not use our remedies, particularly mercury, in sufficient quantity or with sufficient energy. Fournier certainly impresses this on us in his late text-book. I recently saw a very malignant case of syphilis in a man who evidently furnished fresh soil for the disease. He had received internal treatment for two years, during which time he visited Hot Springs twice, but still his lesions failed to heal. He had developed a severe glossitis with a generalized skin eruption two years after the initial lesion. He also had a hard lesion on the glans penis, and a granulomatous lesion on the calf of one leg. Large doses of iodid had failed to relieve him. I gave him seven calomel injections, in doses of 5 centigrams, injected deep into the gluteal region, and afterward substituted gray oil. Under this treatment his skin eruption practically cleared up, and the gummatous lesion on the right calf is almost healed. While the injection treatment is certainly the most efficacious method of treating syphilis, there is one objection to the use of calomel, namely, it is liable to produce pain and tenderness and even abscess at the site of the injection unless it is injected deep into the muscles.

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[8] Arch. f. Dermat. u. Syph., 1903, lx, 399.

[9] Arch. f. Dermat. u. Syph. xliii, Festschrift, für Pick., 1898, p. 407.

DR. JOSEPH ZEISLER, Chicago: The remarks made at the meeting of this section a year ago by the late Dr. Robert W. Taylor were rather denunciatory of the use of insoluble injections in general. I then warmly defended soluble injections and opposed the use of the insoluble salts. It is therefore only fair that I should now be permitted to express my change of front since that time. I was impressed by Dr. Gottheil's paper on this subject at our last meeting, and after an exchange of ideas with him, I began the use of injections of salicylate of mercury about eight months ago. Since then, after having given several hundred of these injections, I have been perfectly delighted with them. In certain forms of deep-seated tertiary lesions I was able, by means of injections of the insoluble salts, to produce results far superior to those of any other method of treatment that I had hitherto tried. I recently saw a young physician, a former pupil of mine, with mucous lesions and other evidence of an old syphilis. He objected to the proposed use of injections of salicylate of mercury, and when I expressed my surprise at this, he said that he had read my remarks on the subject made a year ago. I told him practically what I have said here to-day and explained my change of view, as I had already done on a previous occasion, at a meeting of the Chicago Medical Society. He still objected to the injection method, and I thereon refused to treat him. The following day he returned and made no further objection, and after the third injection the mucous patches on his tongue had disappeared, and my young friend had become very enthusiastic in regard to the treatment. In his case, only four or five injections were necessary. Many of you who at the present moment are opposed to the use of the deep injection of the insoluble salts of mercury in syphilis do not, I venture to say, even use the soluble ones. I believe that if you will take up the method and familiarize yourself with its technic, which is extremely simple, you will soon become as enthusiastic in regard to it as are Dr. Gottheil and Dr. Klotz.

DR. M. L. HEIDINGSFELD, Cincinnati: I have used a preparation of lanolin and metallic mercury equal parts, by weight, with very gratifying results for a number of years, and it has also been employed by a number of confrères, including Dr. L. E. Schmidt of Chicago and Dr. Eugene Hay of Hot Springs. I have never given a larger dose than 3 grains, but Dr. Schmidt has given as high as 5 grains of metallic mercury to each injection. Its results are especially shown in the very severe and persistent forms of eruption affecting the mucous membranes. The average case of syphilis will take care of itself, but some of these persistent cases are the ones wherein the injection treatment has been most gratifying. I recall the case of a man of 32 who came to me during the past year from Savannah, Ga., with the history of an epithelioma of the penis. The lesion had originally been regarded as syphilitic, but as it had failed to improve under the internal administration of mercury and the iodids, the penis was amputated. When I saw him, eighteen months later, there was a supposed recurrence. This entirely cleared up after a few injections of the insoluble salt in large doses, which proved the case to be one of syphilis without a doubt. The chief advantages of the preparation are the stable character, large dosage and great tolerance.

DR. W. H. DAVIS, Denver: At the time of the last meeting of the section I had been using injections of the salicylate of mercury. Subsequently I began the use of gray oil, and from the latter I have not had the painful indurations and infiltrations that I had when I used the salicylate. I regard gray oil as the best preparation I have used. I am sure that if you will take up the use of gray oil in accordance with the technic of Dr. Gottheil, the good results you will obtain will be a revelation to many of you.

DR. EUGENE CARSON HAY, Hot Springs, Ark.: Up to two years ago I used the soluble mercurial salts entirely for injection purposes. The bichlorid I never used, on account of the pain to which it gave rise. About two years ago I began the use of the salicylates of mercury, and while my results have been good, I think that perhaps we are apt to become too enthusiastic in regard to it, and forget the equally brilliant results that may be obtained by the older methods. I am still a believer in the ordinary routine treatment of syphilis, and my experience with the inunction method especially has been very favorable. If we take, for example, one hundred cases of ordinary secondary syphilis, and give the patients inunction treatment, and then take a second hundred and treat them by injections of the insoluble salts, I venture to say that the lesions in the first hundred will clear up just as rapidly as those in the second hundred; in other words, that the results of one method of treatment will be just as good as those of the other. Of course, there are exceptions. Some individuals apparently do not get the effects of mercury when given by inunction, and in such cases the injection method can be substituted. Frequently the first symptom produced by mercury is its depressive effect on the nervous system, and the gums are not an infallible guide. I saw a man recently who received sixty inunctions of mercury without any effect, and who rapidly improved with the substitution of the injection method. I gave up the use of the insoluble salicylate of mercury entirely about six months ago, because so many patients complained of the pain produced by the injections, and have been using the modified gray oil ever since. This modification I learned of through a conversation with Dr. Heidingsfeld about three years ago. He told me about a combination of lanolin and bi-distilled mercury that he was using, and sent me a loaded syringe, requesting I give it a trial. I am pleased to state that his modification of Lang's oil gave rise to less pain than any other preparation of mercury that I have ever employed, and the results have been generally very gratifying. In severe or malignant cases of syphilis, where a rapid effect is desirable, I prefer the injection treatment, but in the ordinary run of cases I can accomplish just as much with the inunctions. In syphilis of the nervous system I look on injections as the best method of treatment.

DR. WILLIAM A. PUSEY, Chicago: I appreciate the value of testimony such as Dr. Klotz has given us in regard to the use of insoluble salts, and in extreme situations I fully approve of the adoption of injections of mercury; but I prefer to give mercury by the mouth rather than by the muscles, for the same reason that I prefer to give nourishment by the mouth rather than by the rectum; and so long as a patient can take it by the mouth and be benefited thereby, I see no reason against that method of administration in the majority of cases. Whenever I listen to a discussion of this kind, emphasizing the ease and efficacy of these newer methods, I wonder if my experience with syphilis has been more fortunate than that of most men. The ordinary case of syphilis, in my experience, is one of the easiest things to treat. All the patient requires is rational and specific treatment. The administration of mercury and potassium iodid is an extremely simple proposition, as a rule, and the cases of syphilis requiring the new methods of treatment are extremely rare. As to parasyphilis, nobody knows the relative frequency of parasyphilitic manifestations after any particular form of treatment, nor does it appear that any form of treating syphilis has any effect on the subsequent possible development of tabes or general paresis. It has not been proved that those diseases are due to the virus of syphilis, and it is more probable that they are due to some of the antibodies of the disease. I do not wish to combat the use of the injection treatment of syphilis in those cases in which heroic treatment is indicated, but I do think that somebody should say a word in favor of the extreme amenability of syphilis to the ordinary methods of treatment.

Dr. Henry Clay Baum, Syracuse, N. Y.: Dr. Pusey expresses my views in regard to the proper method of treating syphilis. I employ both soluble and insoluble injections, but only on rare occasions and not as a routine. I believe that if one thoroughly masters any particular method of treating syphilis, and at the same time studies the needs of his patients and keeps them in good health otherwise, he will be successful, whether he employs the injections, inunctions or gives his drugs internally. In rare cases, any particular method may fail; and then a change to another is necessary. In my experience with syphilis, extending over a quarter of a century, I have no apologies to offer for the methods employed—usually internally medication and inunctions. I am inclined to believe that the later manifestations of syphilis are not due to the failure of the method of treatment, but to the fact that the patient was inadequately treated during the early stages of the disease.

Dr. M. Lyon, DeWitt, Iowa: I notice that nobody has said anything about the intravenous method of injecting mercury, as recommended by Dr. G. Frank Lydston in The Journal, Nov. 16, 1907. I have treated several patients by intravenous injections of bichlorid of mercury. The injections gave rise to considerable pain, which, however, disappeared rapidly. The preparation I used was a 1 per cent. bichlorid solution, injected directly into the vein. By this method quick results will be obtained in desperate cases—sometimes inside of twenty-four hours.

Dr. David Lieberthal, Chicago: I have employed injections of bichlorid, gray oil, calomel and salicylate of mercury in the treatment of syphilis for the past fifteen years. I also use other modes of administration. Whenever I am convinced that a patient will carry out instructions, I prefer the inunction method because I consider the same the treatment par excellence. When difficulties arise for its application, the injections are the next choice. Any one employing them must be impressed by their marked effect. Among others, I recall a case of acute iritis, which cleared up within forty-eight hours after a single injection of salicylate of mercury. If a syringe with a leather or rubber washer be employed, care should be taken that the washer be in good condition, because the leather or rubber readily decomposes and particles may be carried with the injection fluid into the tissues and cause abscess. As a menstruum for insoluble preparations, olive oil is preferable to liquid petrolatum, because the latter is apt to produce harder infiltrations and of longer duration. The injections of insoluble salts should rather be applied hypodermically than intramuscularly, because if an abscess should form, it is more easily accessible. In tertiary manifestations, we should combine the administration of potassium iodid with mercury. After the symptoms have subsided, a prolonged course of mercurial treatment should follow, in order to prevent a recurrence of tertiary lesions.

Dr. M. B. Hartzell, Philadelphia: I have never resorted to the insoluble injections of mercury. The use of the insoluble injections, as admitted even by the advocates of that treatment, is oftentimes followed by disastrous results. Millions of men and women have been successfully treated with mercury given by the mouth. I believe that there are urgent cases of syphilis in which the hypodermic method of treatment is indicated, but in those cases the use of the soluble salts will accomplish quite as much as the insoluble. After you have injected an insoluble preparation of mercury into your patient, it is beyond your control, and you do not know how long it will take to absorb it. Those who assert that the insoluble preparations are more efficacious than the soluble attempt to prove too much. They state that the insoluble mercury is gradually and slowly absorbed, and that the patient is gradually placed under its influence. With a soluble preparation, the effect will continue until the drug is absorbed; with an insoluble preparation, you do not know what will happen. I am opposed to depositing mercury in a man's tissues, since you are absolutely incapable of knowing whether it will be absorbed in a few hours or a few weeks. In the vast majority of cases of syphilis, I believe that this method of treatment is unnecessary. It is easy to say that the patient does not object to the treatment, but I am quite sure that most of us, if we had to take mercury, unless there was an urgent necessity, would prefer to take it by the mouth. In my opinion, the intravenous method of injecting mercury is little short of criminal.

Dr. Hermann G. Klotz, New York: I came here on account of the adverse and harsh remarks on the injections of insoluble mercurial preparations which had been made at last year's session, and I had looked for considerable criticism of my paper. I did not particularly mention the gray oil, because I have had hardly any experience with it; I do not believe in having too many irons in the fire at the same time; but if I find a method a good one I study that thoroughly and try to master it. I had regarded gray oil as a valuable remedy in syphilis until recently, when I read papers by Welander and by Zieler, the latter an assistant of Neisser, which really were intended to favor and to recommend the gray oil. But they actually gave me the impression that in its application it is more dangerous and less effective than the salicylate and calomel, because it is more liable to remain for a long time unabsorbed at the seat of the injection. In its action it is apparently more slow and more like the inunctions. I agree with Dr. Pusey that you can treat a recent case of syphilis more or less successfully by almost any method. It is justifiable to try the mildest remedies in the beginning, but if you are confronted with gummatous lesions of the integument or of the mucous membranes that are on the point of breaking down, or with an affection of the nervous system threatening paresis or death, or if you have to deal with a syphilitic iritis, with the eyesight of the patient at stake, then you have no right to delay or to try to temporize. There you have to act quickly and energetically; it is to such cases I have principally referred. If any one present has been so fortunate as not to have seen such cases in the course of his practice, I think that he ought not to oppose the methods of those who have been less fortunate. I can not regard the inunction method of treatment as more scientific than the injections, and it is inapplicable to many patients who can not give up their business. Several speakers have referred to the disastrous results of the insoluble injections. If there are any such results, I should like to have them pointed out and described. I have candidly published all the disagreeable occurrences which I have seen; they were limited to a number of cases of pulmonary embolism, the effects of which were transient in character. When mercury is injected into the muscles, it is no more within or beyond our control than when it is given internally or by inunction. By the latter method nobody can say how much or how little of the drug is absorbed, and when administered internally, we never know how much is taken up by the system, how much remains in the stomach or in the intestines, or how many pills pass unchanged through the intestinal tract and out again.

Norwegian-Danish Translation of Essay on Tuberculosis.—The essay of Dr. Knopf on "Tuberculosis as a Disease of the Masses, and How to Combat It," has been of great service in the crusade against the "Great White Plague." It has been translated into about twenty different languages, and in some cases two translations exist in the same language, as, for instance, an Italian and Russian. We have just received a translation into Norwegian-Danish by Dr. A. C. Amundson for use among the Scandinavians of this country, among whom the death rate from consumption is very high, higher than in the mother countries. The book is published at a low price, 25 cents (to physicians, 18 cents, postpaid) by the Amerika Publishing Company, Madison, Wis. This edition should receive a wide circulation among Scandinavian readers.

NON-SUPPURATIVE INVOLVEMENT OF THE LABYRINTH IN THE COURSE OF MUMPS.

REPORT OF TWO CASES.*

G. W. BOOT, M.D.
EVANSTON, ILL.

Mumps is ordinarily a disease of so mild a character that but little note is taken of its complications aside from the consideration of orchitis. The complication discussed in this paper, while not so common as orchitis, is much more serious as concerns function. The cases I purpose to discuss are those in which the labyrinth is involved in the course of mumps, not by a suppurative process, nor by the extension of a middle-ear process to the labyrinth, nor by the extension of an inflammatory process in the vicinity of the ear, but apparently by metastasis or by a primary localization of the disease in the labyrinth.

I have found in the literature reports on forty-nine cases that seem to me to fulfill these conditions. To these I wish to add the following reports of cases. The first is one which I examined with Dr. Shambaugh in the Central Free Dispensary:

Patient.—T. T., Greek, aged 21, single, occupation shipping clerk.

History.—Four weeks before his attack he worked with a man who had mumps. Three or four days before the onset of the ear trouble he had swelling at the angle of each jaw. These swellings were sensitive to pressure and caused considerable discomfort when he ate sour pickles. About the time of the onset of the ear trouble he had swelling of the left testis. On arising in the morning he noticed that he had a severe whistling of indefinite pitch in the right ear. At the same time he had vertigo which persisted. There was no nausea or vomiting.

Examination.—Both drum membranes were normal with the exception of slight thickening. The whispered voice was heard normally in the left ear, but not heard in the right ear. The Weber test (made by placing a tuning-fork in the median line of the skull) was lateralized decidedly in the left ear. Bone conduction was of normal duration. The Rinné test was positive in the left ear; that is a vibrating tuning-fork which was no longer heard when placed against the side of the skull or over the mastoid was still heard when held close to the auricle of the normal ear, but negative in the right ear; that is, the reverse was observed. There was apparently total deafness for the entire scale in the right ear.

The history of the following case was given me by Dr. Shambaugh, who had examined the patient in his private practice.

Patient.—H. G., female, aged 12, with no history of previous ear trouble.

History.—On the first day of an attack of mumps she noticed ringing and deafness in the left ear. Examination two months later showed both drum membranes normal; there was apparently no hearing for any part of the scale in the affected ear. The child was confined to bed for two weeks subsequent to the onset of the attack of mumps, during which time she was said to have suffered from "bilious fever," a diagnosis which was made apparently on account of the severe dizziness and vomiting, which were marked during that period. At the end of that time the dizziness and vomiting disappeared, but the patient was very weak. Since then there has been no noticeable disturbance of equilibrium.

SUMMARY OF REPORTED CASES.

In reviewing these fifty-one cases the following facts are observed: The ages of the patients ranged from 4 to 41 years, the greatest number of cases (thirty-one out of forty-four) occurring between the ages of 11 and 30. The average age was 18 years. Arranged by decades they were as follows:

	Males.	Females.
1 to 10	1	5
11 to 20	11	9
21 to 30	4	7
31 to 40	3	4
41 to 50	1	0

In all there were 22 males and 27 females. The condition of the middle ear was normal in 23, nearly normal in 4, abnormal in 3. These 3 were not abnormal as the result of this complication. Of the 21 cases in which the state of the drum membranes was not given it is reasonable to suppose that most of them were normal. In the cases in which the tuning-fork tests were given there were no indications of middle-ear involvement.

Mygind gives mumps as the cause of deaf-mutism in 3 per cent. of the cases occurring in Saxony and in 5 per cent. of the cases occurring in America. Bliss reported one case out of 282 cases of acquired deaf-mutism examined by him as due to mumps. Hinton says that *next to scarlatina, mumps most frequently* impairs the hearing. Buerkner gives mumps as the cause of 2 per cent. of the cases of labyrinthine deafness seen in the Göttingen clinic. What proportion of these cases were cases of labyrinthine deafness of the type under consideration I do not know.

The time of the onset of the labyrinthine involvement has varied from four days before the appearance of the parotid swelling to fifteen days afterward. If the case is excluded in which the labyrinthine involvement was said to have occurred four days before the parotitis, the average time of the appearance of the labyrinthine involvement is seven days after the onset of mumps.

The mode of onset was given in 23 cases as follows: Sudden in 6, rapid in 16, gradual in 1.

Of the symptoms indicating labyrinthine trouble, vertigo is present in 29, absent in 7, and not stated in 15. In the cases in which it is not mentioned it is probable that it was not a distressing symptom or it would have been mentioned. In some of the cases it was a very annoying symptom and is described as severe. In one case the patient fell at the moment of attack as if struck. In another there was an irresistible tendency to fall forward. In another the patient could not walk because of the intense dizziness.

Headache was mentioned in but 10 cases. In 6 it was present and in 4 absent. In none does it appear to have been a troublesome symptom. Nausea and vomiting are mentioned in 22 cases, as follows: Nausea with vomiting in 4, vomiting in 15, vomiting absent in 3. Fever was noted as being present in 3 cases. Unconsciousness is noted but 5 times. It was present in 3 cases and absent in 2. It was probably absent from all the cases in the series except the three in which it was specifically stated to have been present.

Subjective noises were noted in 26 cases. In 25 they were present and in 1 absent. They were unilateral in 3 cases and in 2 of these they were on the right side. The noises were noted as being loud, violent or severe in 7 cases. In the other cases their type and severity are not given.

The labyrinthine involvement was bilateral in 10 cases and unilateral in 32 cases. Of the unilateral cases 15 were on the right side and 14 on the left side. The gait was noted as normal in 3 cases and in 11 cases was described as reeling, drunken, uncertain, staggering or bad.

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* From the Ear Department of Rush Medical College.

TABLE OF CASES OF MUMPS COMPLICATED BY NON-SUPPURATIVE INVOLVEMENT OF THE LABYRINTH.

Observer	No. of Case	Age	Sex	Middle Ear	Stage	Mode of Onset	Vertigo	Headache	Vomiting	Fever	Unconscious	Subjective Noises	Unilateral	Bilateral	Gait	
Connor	1	Adult	F	Not Normal	Late	Sudden	+		+				R		Staggering	
Hodgson	2	15	M	Normal	Late		+	+					L			Bilateral Orchitis on 6th day.
“	3	13	F			Sudden	O	O	O							
Roosa	4	23	M	Normal								+	R			
“	5	21	F				+					+	L			
“	6	35	F	Not Normal								+				
“	7	4	F	Normal	5th da	Rapid	+	+	+					+		
“	8	23	M	M. T. Opaque					+				L			
Lemoine & Lannois	9	23	M				O		O						Normal	
Knapp	10	Adult	F	Normal									+			
“	11	Adult	F	Normal									R			
“	12	25	F		7th da	Rapid	+	+						+		
Moos	13	13	M		5th da	Rapid	+				None				Staggering	
“	14	4	F		4th da	Rapid								+		
“	15	8	F		15th da	Rapid					+			+		
Seitz	16	19	M	Nearly Normal	7th da	Rapid	+		O			+	R		Drunken	Slight improvement under K. I.
Brunner	17	30	F			Rapid	+					+	R		Reeling	
Buck	18	41	M	Normal	4th da		+		+			15 da lo'd	L		Disturbed	Bilateral parotitis.
“	19	16	F	Normal	3rd da	Rapid	O		O				R		Normal	Hearing lost in 24 hrs. Bilateral parotitis. No recovery.
Noyes	20	38	M		7th da	Rapid	+		+			+	+		Bad	Orchitis at same time.
Field	21	Adult	M										+			
Dalby	22	7	F			In 24 hrs.								+		
Pomeroy	23	20	F	Sup. Otitis Med		Overnight								+		
Burkner	24	17	M		3rd da	Rapid	+		+			Severe	R		Reeling	Awoke deaf.
Harlan	25	23	F	Normal	2nd da		+					+	R			Irresistible tendency to pitch forward.
Alt	26	12	F	R. Normal L. Ch. Sup. Otitis	3rd da		+					+		+		Heard poorly on 1st day. Improved considerably.
Kayser	27	14	M	Normal	8th da			+	+		+	+	R			Slow pulse.
Tsakyroglous	28	17	M		6th da		+								Bad	Hearing normal.
“ “	29	31	F	Normal	6th da		+					+			Bad	
Kipp	30	18	M	Normal	15th da		O		Nausea			O	R		Normal	Orchitis on 6th day.
“	31	14	M										L			
Noyes Reported by Minor	32	11					+						R			
Minor	33	28	F	*Slight Changes*	*13th da*	*Rapid*			+	*101*	+	+	L			Was delirious.
“	34	13	F	Normal			O		O				L			Pulse 76 on 13th day; 54 on 14th day.
“	35	19	M	Normal	6th da	Gradual	+		Nausea				L			Was dizzy and nauseated the day before parotids swelled.
“	36	35	M	Slight Changes.	10th da		+					+	L			Dizzy on 3rd day. Tended to fall backwards on 10th day.
Dempsey	37	17	M	Normal	6th da	Rapid	O	O				Loud	R			Weber to the left. No improvement.
Foster	38	4	M	Normal		Rapid	+		+			Marked				Fell at onset. Deaf during course of mumps.
Lake	39	35	F	Normal	7th da	Sudden	+	O	Nausea				L	+		No forks heard on left side by air conduction.
Crockett	40	9	F	Normal	14th da	Rapid	O	O				+		+		No ocular disturbances. One year later heard 40 v. s. fork only.
“	41	16	M		Late	Sudden	+		+			Violent	L			Deafness in left ear total in 1 hour. Nausea and vomiting for three weeks.
Haug	42	11	F			Sudden	+		+	+				+	Uncertain	Deafness occurred 4 days before the parotitis. Occipital pain at onset.
Brieger	43				12th da			+	+	+						
Urbantschitsch	44	12	F		14th da		+	+	+		O	Intense				Slow pulse. Onesided weakness of lower limbs.
Lake Reported by Hall	45	35	F	Normal	7th da	Sudden	+		+			Severe	L			Occurred in a hereditary deaf mute. Lake considered it due to thrombosis of a branch of the internal auditory artery.
Hall	46	17	F										R			
Alt	47	40	M	Normal	3rd da		Severe					+	L			Occurred immediately after mumps. Left sided mumps. Hearing improved so that a whisper heard at first at 1 meter was heard at 5 meters. Looking upwards or arising from a horizontal position caused intense dizziness.
Alt	48	22	F	Normal	3rd da		Severe					+ R	R		Uncertain	Right sided mumps. Could not walk for dizziness.
Burnett	49	Adult	M				+					+ L				Left parotid swollen first, 4 days later right, 4 days later left testis, 4 days later right testis, 2 or 3 days later right sided pleurisy. *Apparent motion of* objects toward the left. Tends to fall to the left. Has coppery taste in the mouth when dizziness is increased from any cause.
Boot	50	21	M	Normal	3rd da		+		O			+ R	R			
Shambaugh	51	12	F	Normal	1st da		+		+			+	L			Orchitis developed at time of ear involvement.

+ =present. O=absent.

ETIOLOGY.

Although a number of these patients had orchitis there seemed to be no relation between the orchitis and the labyrinthine complication other than that they both occurred in a disease of a type in which metastatic involvement was common. There seems to have been no relation between the side of the face involved in the mumps and the ear involved in the labyrinthine complication. Neither was there any relation between a unilateral or bilateral labyrinthine disease other than that already mentioned, that they occurred in a severe type of the disease.

There are three distinct types of labyrinthine involvement in the course of mumps. They are:

1. Involvement of the cochlea chiefly.
2. Involvement of the semicircular canal system chiefly.
3. Involvement of both cochlea and semicircular canals.

The first type is seen in Case 19 of this series in which a girl of 19 with normal drum membranes lost the hearing of the right ear in the course of twenty-four hours on the third day of an attack of bilateral mumps. There was no vomiting, dizziness or disturbance of gait and no recovery of hearing.

The second type is seen in Case 47 in which a man of 40, with normal drum membranes, was taken with severe dizziness, subjective noises and moderate left-sided deafness on the third day of an attack of mumps. In this case a whisper which at first was heard in the affected ear at one meter, after treatment was heard at five meters.

The great majority of cases fall under the third class in which both cochlea and semicircular canals are involved in varying degrees at about the same time. This is to be expected if the anatomic relationship of the parts involved is considered.

Case 44, reported by Urbantschitsch, is particularly interesting. It occurred in a congenital deaf-mute on the fourteenth day of an attack of mumps. The patient became unconscious. She suffered from vertigo, headache, vomiting and intense subjective noises. Later she was found to have lost the small amount of hearing that was present before the attack.

PATHOLOGY.

The pathologic anatomy of this complication has not yet been worked out. I have not been able to find any report of postmortem examinations of this complication of mumps. Reasoning by analogy from postmortem findings in labyrinthine disease from other causes it seems certain that this complication is not due to pyogenic organisms. It is not due to an extension of a middle-ear inflammation. Thrombosis of a branch of internal auditory artery, hemorrhage into the labyrinth, and acute neuritis of the auditory nerve may be present, but judging from the absence of similar conditions in other parts of the body in mumps they do not seem likely causes of the labyrinthine affection. It seems to me likely that the trouble is an acute infection by some non-pyogenic micro-organism, probably the streptococcus described by Bein, Michaelis and Busquet as the cause of mumps, and that it reaches the labyrinth by way of the blood, causing an inflammation that may reach any grade short of pus formation. In some of the cases in which hearing improved considerably under treatment the inflammation could hardly have been more than a serous effusion into the labyrinth. In most of the cases it must have reached a grade severe enough to have caused destruction of the delicate structures of the organ of Corti and of the sensory mechanism of the semicircular canals and vestibule. This type of inflammation is in accord with that seen in the parotid, where there is serous effusion with some cellular infiltration.

The following may be considered as descriptive of the symptoms of a typical case of this complication. About the seventh day of an attack of mumps, but possibly as early as the first day or as late as the fifteenth, the patient, who has no other signs of ear involvement, is seized suddenly with severe vertigo, nausea and vomiting, headaches of a mild type and loud subjective noises. He is unable to walk except in a staggering or drunken manner. In the course of twenty-four hours he becomes quite deaf to the spoken voice in the affected ear. Air conduction is much diminished or lost in the affected ear. The Weber test is lateralized in the better hearing ear if the disease is unilateral. The Rinné test is positive if both ears are involved, negative in the affected ear if but one ear is involved. Bone conduction is of normal duration if but one ear is involved, much shortened if both are affected.

PROGNOSIS.

The prognosis is bad. A few patients show some improvement in hearing under appropriate treatment used early. Most patients have had no subsequent improvement in hearing under any form of treatment. The vertigo often disappears but in some cases persists in a lesser degree for years. The subjective noises tend to become less troublesome in the course of time.

TREATMENT.

Treatment should be both preventive and curative. Preventive treatment should consist in avoiding the things that tend to cause metastasis, particularly chilling of the body. Excitement, both general and local, should be avoided. Elimination should be promoted. Intoxication by food, drink or intestinal putrefaction should be avoided. Circulatory sedatives should be administered.

Curative treatment should be directed toward the absorption of the inflammatory products in the labyrinth before they have caused permanent damage to the intralabyrinthine structures. Potassium iodid and pilocarpin are the two remedies that have been most efficient. Sudorifics, diuretics, cathartics and cardiac depressants would seem to be indicated to limit the amount of effusion into the labyrinth and to cause its absorption. Local depletion might help if used early but its effects are problematic. Inflation, aural massage and remedies that cause aural congestion are contraindicated during the early stages of the attack.

CONCLUSION.

Labyrinthine involvement in the course of mumps is a serious condition as concerns function and since it is not responsive to treatment except in the early stages it should be treated promptly and actively.

800 Davis Street.

Tuberculosis Among Negroes.—H. L. Sutherland in the *Mississippi Medical Monthly*, July, urges health officials to report the ravages of tuberculosis in the negro race, and to call the attention of influential negro men and women to it. He also urges physicians to impress on people the necessity for care in the selection of household servants.

HEMORRHAGE OF THE ADRENALS IN INFANTS.

WITH REPORT OF TWO CASES DUE TO INFECTION.*

JENNINGS C. LITZENBERG, B.Sc., M.D.
Clinical Professor of Obstetrics, University of Minnesota.
AND
S. MARX WHITE, B.Sc., M.D.
Associate Professor of Pathology, University of Minnesota
MINNEAPOLIS.

Hemorrhage of the suprarenal capsules is the most common visceral hemorrhage of the newborn. Malei,[1] Rolleston and Le Conte[2] found the surprising average of 45 per cent. of adrenal hemorrhages in the newborn in 230 autopsies, and only 1 per cent. in adults. These figures probably exaggerate the real conditions, but they illustrate the fact that suprarenal hemorrhage is common in the newborn and much more common than in adults.

Hamill[3] in 1901 wrote an exhaustive paper reporting 90 cases. We have collected an additional 29 cases, 27 from the literature and the two reported in this paper. Conclusions are drawn from these 119 cases.

CASE 1.—Baby W., born March 21, 1905, 10 p. m., in a general hospital, after normal labor; weight 7¾ pounds. Baby was normal in every way until it was 48 hours old, when it refused to nurse, was very fretful, and cried most of the time. Temperature was 106.8 F.; had repeated convulsions and passed black, melanotic material from the bowel; on the third day vomited same kind of material; also passed gas frequently and continued to pass and vomit dark blood. On the sixth day the hemorrhages from the mouth and bowels grew much worse and were of a very disagreeable odor. The baby was evidently suffering from infection; the umbilicus was thought by a consultant to be the avenue of entrance. The baby also showed signs of bronchopneumonia. On the sixth day the baby suddenly collapsed and died.

Autopsy.—March 28, 1905. (Dr. White.) The body is twenty inches long and emaciated. The navel is covered with a thin dry crust. Under the crust the tissues are dry and show no evidence of infection. The omentum does not cover the small intestines but is drawn up beneath the transverse colon. The pleural cavities and pericardium contain no excess of fluid and are free from adhesions. The tongue, pharynx, esophagus, larynx and trachea show no changes. Thymus, size of lima bean; negative. Thyroid gland negative.

Lungs: The right lung is voluminous. Its anterior margins are somewhat pale and have a feathery feeling. The dorsal half of the upper lobe and the greater portion of the lower lobe are greatly congested, dark red in color and show small areas of consolidation. Many areas are very dark reddish or brownish red in color and from these a thick, viscid, bloody substance escapes from the cut surface. The areas are completely airless, sinking in water. There are thus two varieties of lesions seen, the small areas of consolidation, and the larger, more widespread areas of hemorrhage The lower lobe of the left lung shows changes similar to those just described, but not so extensive. The contrast between the areas of consolidation and of hemorrhage is more pronounced than in the right lung. Heart, normal size; valves, negative; foramen ovale nearly closed Aorta negative. Spleen about normal size. Pulp dark in color and seems somewhat softened. Kidneys show extensive uric acid infarction in the pyramids. Cortex and capsule show no changes Ureters and bladder negative. Uterus and adnexa negative.

Adrenals: The right gland is greatly enlarged, being fully the volume of the adult organ, but shorter and thicker. It is firm and on cutting is seen to consist almost entirely of a mass of dark red, clotted blood infiltrating the organ, with traces of the adrenal cortex at the periphery. The left adrenal is nearly as large as the right and infiltrated with blood in a similar manner.

Liver: Shows some staining with bile and a moderate degree of postmortem change on its under surface where it is in contact with the colon. It is otherwise normal. Gall bladder is filled with bile. Pancreas shows no changes. Stomach is distended with partially digested blood. No ulcers or changes in the mucosa are found.

Small intestine: Shows large amounts of partially digested blood in the lumen. In the mucous membrane are a number of patches of swelling due to edema, congestion and hemorrhage, which appears to be into the mucosa and submucosa No ulcers are found.

Large intestine: There are numerous areas of swelling and hemorrhage beneath the mucosa similar to those seen in the small intestine. These areas vary from 1 to 3 or 4 mm in diameter. Appendix, 5 cm. long and free from hemorrhage or other change. Retroperitoneal and mesenteric glands do not appear swollen, nor do they show other change.

Brain and spinal cord not examined.

Microscopic Examination: The left adrenal shows marked hemorrhage and necrosis, except for narrow zones here and there just beneath the capsule. In these narrow zones the cells take the stain in quite a normal manner. The blood vessels in this region are distended with red blood cells In many places the necrosis reaches to the capsule of the organ The demarcation between living substance and the necrotic areas is sometimes quite abrupt, but, for the most part, it is noted that the parenchyma cells are undergoing degeneration, being sometimes swollen, taking eosin deeply with the nuclei showing varying grades of karyolysis, while the nuclei of the connective tissue reticulum and of the capillary walls still stain well. The areas of hemorrhage correspond, in the main, with areas of necrosis, but in places necrosis is found without hemorrhage. Even where blood is most abundant the reticulum can be traced widely separated by red blood cells and there are many round cells throughout with also many parenchyma cells in various stages of cloudy swelling and necrosis.

In the right adrenal the necrosis is more extensive than in the left, and it is rare to find even traces of living parenchyma cells beneath the capsule. The central portion of the mass consists of red blood cells and fibrin with traces of the reticulum and many round cells. An occasional polymorphonuclear leucocyte is seen. Near the capsule the reticulum becomes more readily distinguished, the nuclei more abundant, and here and there masses of large cells with nuclei in various stages of karyolysis can be seen. Just beneath the capsule there are many hyaline thrombi, which take on a yellowish color with the eosin (water soluble yellow). There is some hemorrhagic infiltration even in the capsule of the gland

Lung: There is considerable desquamation of the bronchial epithelium. The alveolar walls everywhere are greatly congested and in many places they are thickened by a round cell infiltration. In a few small areas swelling and desquamation of the cells lying in the alveoli has occurred, so that the alveoli are nearly filled. In some small areas in the upper lobe and through the greater portion of the lower lobe extensive hemorrhage has occurred. In these areas the blood is broken down into a brownish pigment in granules, the alveoli are distended with a finely granular substance taking the eosin, and the cells in the alveolar walls stain irregularly and not so well as in the areas where the alveoli contain air. In these areas the blood vessels are widely distended with blood, the pigment of which appears to be breaking down into brownish granules

Kidneys: The glomeruli are somewhat congested, but stain normally. Some of the convoluted tubules are distended with a substance which is mostly finely granular, but is hyaline in places. In some places the epithelium of the convoluted tubules is undergoing degeneration, and in most of the convoluted tubules the lumen has disappeared because of the swelling of the cells. The Henle's and collecting tubules are often widely distended with a granular hyaline material which stains a dull violet with eosin, while the neighboring red blood cells stain orange. The epithelium of these tubules is desquamating in places. The blood vessels throughout the kidney are widely distended and this is particularly true of the cortical vessels in the neighborhood of the capsular and stellate veins which are also widely distended.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908

[1] Jour. de med. de chir et de pharm., 1865, p 322.

[2] Thes de Paris, 1895

[3] Arch. Pediat., February and March, 1901

Liver. The liver shows no degenerative lesions but the vessels, especially the portal branches, are widely distended with blood.

Bacterial cultures were taken from both adrenals, heart's blood, lung, liver, spleen, kidneys, and umbilical vein. The cultures from the spleen, kidneys and umbilical vein were sterile. An organism culturely identical with *Bacterium pneumonia* (Friedländer) was found pure in both adrenals, heart's blood, lung and liver.

Pathologic Diagnosis.—1. General infection with *Bacterium pneumonia* (Friedländer). 2. Focal necrosis with extensive parenchymatous hemorrhage into both adrenals. 3. Focal pneumonia with focal hemorrhagic infiltration of lungs. 4. Hemorrhage and edema of intestinal mucosa and submucosa, with melena.

CASE 2.—Baby R., born Oct. 11, 1906, at 9:30 p. m., in the same general hospital. The presentation was a breech, but the labor was not unusually long or difficult. The baby was slightly asphyxiated but was quickly resuscitated; weight, 8½ pounds. The passages from the bowels were offensive on the first day. The baby lost a pound and a half the first two days, dejections remained offensive. There was no hemorrhage from the bowels. On the third day the breathing was very rapid and the temperature was 104 F. On the evening of the fourth day the baby's color suddenly blanched, it collapsed all at once and died as if from internal hemorrhage.

Autopsy.—(Dr. White.) The body is twenty inches in length and fairly well nourished. Postmortem rigidity moderate in degree. The naval shows no trace of cord and is covered with a thin dry crust. There is no trace of pus beneath the crust and no evidence of infection. The abdominal cavity contains about 2 drams of dark blood with some dark clots in the right half near the right kidney. The pleural cavities and the pericardial cavity contain no excess of fluid, no blood, no adhesions. The tongue, pharynx, larynx, trachea, thyroid, and esophagus are apparently normal. The thymus is 2 cm. broad, 1½ cm. from above downward, and ½ cm. in its greatest thickness; normal in location, consistency and appearance. The lungs are small and show here and there patches in which the alveoli have become distended with air. Here and there are areas which are darker in color and sink in water, evidently unexpanded portions of the lung. The heart is about normal in size, valves are negative, and the foramen ovale is nearly closed. The aorta shows no changes. The spleen is of normal size. The pulp is dark, but no changes are apparent to the naked eye.

Adrenals.[*] The region of the right adrenal shows extensive hemorrhage. On the ventral surface of the adrenal is a point of rupture from which extravasation of blood has occurred, infiltrating the pericapsular space and the right perirenal capsule, the inferior surface of the diaphragm, extending along its dorsal portion as far as the foramen for the passage of the esophagus, and infiltrating the ascending and transverse mesocolon. Nearly over the point of rupture in the ventral face of the adrenal the peritoneum has a small opening from which about 2 drams of blood has escaped into the peritoneal cavity, as already described. The right adrenal measures 3x3x2.5 cm., has assumed a nearly globular form though still concave on the lower or caudal surface where it is in contact with the kidney. On cutting the gland open, its center is a mass of partially clotted blood at the periphery of which remnants of congested and hemorrhagic adrenal substance can be seen. The left adrenal appears but slightly larger than normal and its typical outline is preserved. On cut section the medullary portion appears congested and softened and somewhat widened in places, but there is no evidence to the naked eye of hemorrhage.

The kidneys on cut section are apparently normal. The liver is normal in size and appearance. There is some bile in the gall bladder. The stomach, intestines and retroperitoneal structures show no change. The brain and spinal cord were not examined.

Microscopic Examination.—The right adrenal shows in a few places beneath the capsule small areas in which the parenchyma cells stain well and are apparently unchanged. The capillaries in such regions are distended with blood. A dense mass of blood can be seen outside the fibrous capsule of the gland. The greater portion of the gland substance shows necrosis, with either hemorrhage or marked congestion. The area of necrosis is quite sharply marked off from the areas of living cells. The cells of the parenchyma show all stages leading to necrosis with karyolysis. Near the areas of living tissue the reticulum still retains capacity for staining, but further away the nuclei of both parenchyma and reticulum fail to stain. Here and there, through the areas of hemorrhage and necrosis, considerable round cell infiltration and in many places numerous polymorphonuclear leucocytes are seen. In some small areas karyorrhexis is occurring.

In the left adrenal there is much less hemorrhage and therefore a better opportunity to study the necrosis which is occurring in foci here and there. This necrosis does not reach to the capsule at any place, but occurs in the medullary portion and may involve the zona reticularis of the cortex. The blood vessels in and about the areas of necrosis are widely distended. The demarcation is fairly sharp, in the outer layer only the parenchyma cells are affected, becoming swollen, cloudy, and the nuclei swollen and faintly staining. Deeper in, the cells of the reticulum are undergoing necrosis, but throughout there is considerable round cell infiltration and an occasional polymorphonuclear leucocyte. The blood vessels in the unaffected portions of the gland are distended with blood and in the fat about the capsule many widely distended veins and capillaries can be seen.

The kidneys microscopically appear quite normal. The capsular and stellate veins are injected. The spleen shows congestion in the pulp, but no necrosis. In some places this congestion is so pronounced as to suggest minute hemorrhages. The lung shows some catarrhal inflammation in the bronchi with desquamation of the epithelium. There are many areas of atelectasis and many unexpanded bronchi. Both in areas of atelectasis and in those containing air there is much blood in the vessels both small and large, and most of the larger vessels show small area of extravasation about them in the fibrous tissue. There is no evidence of necrosis or inflammatory infiltration in the lung. The liver shows no degenerative lesions. The umbilical artery is nearly empty and the umbilical vein shows some clotted blood without any evidence of inflammatory infiltration either in the cord or the walls of the vessel.

Bacterial cultures were taken from the right adrenal, the lung, heart's blood, liver, spleen and kidney. There was no growth in cultures from the kidney, but from each of the other organs mentioned an organism corresponding in all particulars to *Bacterium pneumoniæ* (Friedlander) was obtained in pure culture.

Pathologic Diagnosis.—1. General infection with *Bacterium pneumoniæ* (Friedländer). 2. Partial atelectasis of lungs, with small foci of hemorrhage and catarrhal bronchitis. 3. Focal necrosis of adrenal glands with congestion and small hemorrhagic foci in left, with extensive hemorrhage in right, rupting capsule and infiltrating right perirenal fatty capsule, ascending and transverse mesocolon and inferior surface of diaphragm, and rupturing into peritoneal cavity.

The hemorrhage may be microscopic or so large as to fill the whole gland, or the encysted blood may burst through the capsule into the surrounding tissues or even through the peritoneum, filling the body cavity. In one recorded case the blood burst into the liver, penetrating beneath Glisson's capsule, lifting it from the liver substance over a considerable area. In one of Hamill's cases[1] it penetrated into the tissues of the diaphragm.

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[*] Our colleague, Dr. H. F. Robertson, recently isolated a bacterium identical in all cultural characteristics with the organisms found in these two cases, from a case of pneumonia. This organism caused hemorrhage into the adrenal in a series of four successive guinea pigs inoculated with a pure culture. Microscopic examination shows necrosis with marked congestion and hemorrhage. One of us (S. M. W.) has also found a small hemorrhage with necrosis in the adrenal of a patient dying from lobar pneumonia, from the blood and lung bacterium pneumonia was isolated.

Hemorrhages bursting through the peritoneum are not common. In Hamill's series of 90 cases there were 11, and in this series of 29 cases one of our cases and one of Oberndorfer's are the only ones which burst into the abdominal cavity, making 13 in the series of 119. There were 19 other large hemorrhages which remained encysted. If we take the bursting and encysted hemorrhages together we find that 28 per cent. of the cases should be classed as large hemorrhages. The size of the hemorrhage, however, does not always determine whether or not it is the cause of death. There were several cases in which the hemorrhages were not large, yet no other cause of death could be found. There were 22 cases in which death could be attributed to no other cause than adrenal hemorrhage and 16 others in which the adrenal hemorrhage was an important factor, if not the determining cause of death. There were but 10 cases in which the adrenal hemorrhage seemed to be of no importance.

Hemorrhage is the most common affection of the suprarenals, next to Addison's disease. One or both glands may be affected, but the right adrenal is the most common location of the hemorrhage, due, probably, to the fact that the veins of the right suprarenal empty directly into the inferior vena cava, making it more liable to share in any congestion of the vena cava than the left, which empties into the renal vein. It is also more likely to be subjected to pressure during labor because it lies between the liver and the vertebral column. In the cases in which the location of the hemorrhages was mentioned, the right gland was alone affected in 16, the left alone in 9, and both in 48 cases. The origin of the hemorrhage is generally supposed to be in the medulla, but Arnaud[4] has shown that the bleeding really takes place in the internal cortical zone, where the capillaries break under the influence of strong congestion. If the hemorrhage is large, it infiltrates the whole gland and sometimes the glandular substance is nearly all destroyed, only a small part of the cortex remaining flattened against the envelope of the capsule forming part of the wall of a cyst filled with a dark liquid or clotted blood. If the hemorrhage is limited to the cortex the bleeding is usually slight. Hengge reports one case with the hemorrhage between the cortex and the capsule of the gland, which also occurred in one of our cases. Fiedler reported two cases with fatty degeneration of the whole suprarenal except the vessels, in addition to the hemorrhages. In a few cases hemorrhage is found only with the aid of the microscope.

In one case (Still[5]) the medulla was infiltrated with blood corpuscles with no destruction of glandular tissue. Sometimes the stroma of the gland will be preserved, its cells being replaced by blood.

ETIOLOGY.

So many theories have been advanced to account for suprarenal hemorrhage that we are led to conclude that little is positively known of the etiology. However, there is one theory on which all the investigators agree, and that is that a weakness of the venous walls is responsible for the hemorrhage, but they do not agree as to the cause of this weakness. Milroy[6] and Demelin[7] believed it was a congenital weakness, while Still[5] and Lewes[8] consider that it was due to the pathologic condition of the vessels, such as fatty degeneration, which has never been found in the blood vessels, though Fiedler found it in the glandular tissue.

Mattei[1] advanced the theory that the compression of the inferior vena cava between the liver and the spine during the uterine contractions caused a damming back of the blood into the adrenal, especially during difficult labors. Hutinel[9] and Droubaix[10] agree with this theory, adding that thrombosis may also cause the damming back. Demelin[7] also supports these ideas and advances the theory that the congestion of the internal organs attendant upon the establishment of breathing in the newly born especially affects the adrenals due to their saccular structure and intimate relation to the vena cava.

Spencer[8] thought the weakness was only a normal delicacy of the vessel walls or possibly due to syphilis; he agrees with Mattei that the squeezing of the blood into the glands is an important factor, especially apt to occur in forceps operation or versions. Most of his cases required some kind of interference to complete delivery, a majority being delivered by the breech.

In this series of 119 cases eight versions are recorded, eight forceps deliveries and nine breech presentation; labor was induced once and cephalotripsy resorted to four times. Rayer[11] believed in the normal fragility of the vessels and thought the lack of firmness of the medulla a factor. Von Kirvisch[12] asserts that ligation of the cord will produce congestion and hemorrhage and prolapsed cord reported in two cases and cord around the neck reported in four cases may do the same thing. All these theories are based on the supposition of the existence of passive congestion.

Arnaud,[5] however, has proved by his extensive histologic studies with Alezais that it is not necessary to assume a morbid weakness of the vessel walls to account for the hemorrhage. The anatomic arrangement of the blood vessels in the internal cortical zone makes bleeding easy; histologically this zone belongs to the cortex, but differs from it in the reticulated arrangement of its cellular elements, and it is much more vascular, the vessels forming a chasm-like network, which Arnaud calls the vascular reticular zone because of the disposition of the epithelial rows and the predominance of capillary vessels which give, by their frequent anastomosis, a cavernous aspect. To the naked eye this zone appears as a brown line between the cortex and medulla, which is due to the vascular network filled with blood and not to pigmentation. This zone is the softest of the gland, being formed of cellular trabeculæ and of a great number of anastomosing capillaries which form by their amalgamation blood pools which break easily, not alone because of the normal delicacy of the vessels, but because they lack the support of the gland substance, the epithelial cells being scattered about in the little islands. Only the very large hemorrhages have their origin in the large efferent veins. In no case has a pathologic condition of the blood vessels been demonstrated; even in Fiedler's case of extensive fatty degeneration the vessels were not involved. Therefore, it seems that Arnaud's anatomic explanation is sufficient to account for the ease with which the vessels break, without assuming that a diseased condition of the vessel walls exist. Syphilis has been advanced by some as a

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4. Arch. gén. de méd., July, 1900.
5. Obstet. Soc., London, 1898.
6. Am. Jour. Obstet., July, 1884.
7. Trait. des mal. de l'enf., Paris, 1897.
8. Tr. Obstet. Soc., London, 1891.
9. Thes. de Paris, 1877.
10. Thes. de Paris, 1887.
11. Jour. l'Experience, 1837.
12. Oesterreicher med. Wchnschr., 1842.

cause, but no case could be considered syphilitic unless Fiedler's two cases of fatty degeneration were.

Spencer believed that infection was an etiologic factor, and the course which many of the cases have run have been so typical of infection that the infectious origin of the trouble was advanced almost from the beginning of the investigations. Additional weight is given this theory by the fact that other hemorrhages of the new-born are caused by infection. Klebs[13] and Gaertner[14] isolated germs in hemorrhage of new-born; Merceles,[15] Weigert, Brehn,[16] Kilham,[17] Babinski[18] and Dungeen[19] confirmed these findings, some isolating one germ and some another. The fact that von Ritter was able to entirely do away with hemorrhage in three new-born at the Prague Foundling Asylum Hospital by establishing larger and more sanitary wards also lends color to the infectious origin. The fact that nearly all of the cases occurred in maternity hospitals is also circumstantial evidence in favor of infection. Both of our cases died in the same children's ward of a general hospital.

The case is further strengthened by the results of experimental inoculation of animals. Roux and Yersin[20] obtained visceral hemorrhage, including the adrenals, in guinea-pigs, pigeons and rabbits by injecting the diphtheria bacillus under the skin. Langlois and Charrin[21] obtained the same results with the bacillus pyocyaneus and also with its soluble bacterial toxin. It is of particular interest to us that Roger,[22] by inoculating guinea-pigs with the bacillus of Friedlander, the germ found in both our cases, discovered that the suprarenals were hemorrhagic and occasionally were entirely filled with blood.[1] Pilliet[23] obtained the same results by injecting the essence of cloves into rabbits and guinea-pigs, thus demonstrating that any toxemia might produce hemorrhage. Eight cases in Hamill's series, including his own three, certainly point strongly to infection as a cause of the lesion. Six cases in this series also favor an infectious origin with five others which are possibly due to that cause.

We certainly have good presumptive evidence that suprarenal hemorrhage is due to infection; unfortunately, however, the direct evidence is very meager. The cases of gangrenous varicella and bronchopneumonia can logically be considered infections. Spencer[24] also reports a positively infectious case in a child dying eighteen hours after birth of septicemia contracted in utero. The only cases in the combined series in which positive bacteriologic findings have been found are the four cases in which Riesman obtained pure cultures of the *staphylococcus aureus* and *albus* from the blood and tissues; two cases in which Hamill and Dudgeon[25] found the same germ; a case of Dudgeon's in which pure cultures of the pneumococcus were isolated, and our two cases, in which pure cultures of the Friedlander bacillus were found. Therefore, it seems that the case histories the positive proof of Klebs, Brehn, Merceles, Gaertner and others, that infection does produce hemorrhage in the newborn; and the incontrovertible experimental evidence that positive isolation of micro-organism from seven cases proves beyond question that infection is at least one of the causes of suprarenal hemorrhage.

Hamill, in summing up this phase of the subject, says: "I am inclined to believe that if complete histologic and bacteriologic studies had been made in other cases that striking evidence of a toxic origin would have been found. If such a course be applied to all future investigations it will doubtless be shown that this is not only possible, but by far the most common cause." It is interesting to note that in the four cases of this series in which Hamill's advice was followed bacteria were found.

Langmead[26] and others have thought that the hemorrhage might be due to a specific germ. This will not be found to be true because hemorrhage of suprarenals has been experimentally produced by several different germs. Six different investigators, working on hemorrhages in the newborn, found six different germs, and the idea is positively disproved by Riesman, who found the *staphylococcus aureus* and *albus,* and by Dudgeon, who found pneumococcus, and by our cases, in which the pneumobacillus of Friedlander was found. Hemorrhage may be the result of any one of a number of infections, though certain germs will be found more often than others. The port of entry has not yet been determined, and it is possible that the infection may enter by the cord, the buccal cavity, the tonsils, the pharynx, the alimentary tract or the lungs.

Analyzing the many reputed cases, we find that in reality there are only three fundamental etiologic factors: first, weakness of the vessel walls; second, passive congestion caused by difficult labors, asphyxia, convulsions or anything which would favor venous stasis; third, infection. Following infection there is an active congestion of the suprarenals resulting from the functional superactivity of the gland in an attempt, presumably, to perform its supposed antitoxin rôle in the presence of infective agents or their toxins. Sajous thinks the hemorrhage is due to insufficiency caused by paralysis of the gland tissue by toxins. The important rôle of the suprarenals naturally suggests the query: What effect has suprarenal hemorrhage on the body economy? If these glands be removed or their vessels ligated, death follows quickly. It seems probable, then, that a destructive hemorrhage, even if not large enough *per se* to cause death, may kill because of intoxication following a cessation of the suprarenal function. Just how this occurs remains for physiologists to determine.

SYMPTOMS AND DIAGNOSIS.

There are no symptoms which point directly to the adrenals, although there may be a suspicion of adrenal bleeding if a new-born baby, evidently suffering from infection, suddenly blanches and dies in collapse as if from an internal hemorrhage.

TREATMENT.

There is nothing to be said of treatment, except that improvement in asepsis in hospitals may prevent the infections which lead to hemorrhage in the new-born.

SUMMARY AND CONCLUSIONS.

1. Hemorrhage of the suprarenal capsules is more common than hemorrhage in the other viscera.

2. This is due primarily to the close relation of the adrenals to the vena cava, making congestion easy, and

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[13] Boston Med. and Surg. Jour., December, 1891.
[14] Arch. f. Kinderheilk., 1895.
[15] Med. Rec., May 21, 1903.
[16] Centralbl. f. Kinderheilk.
[17] Arch. of Pediat., 1899.
[18] Virchow's Arch., 1889.
[19] Centralbl. f. Bact., 1893, p. 547.
[20] Annales de l'Inst. Pasteur, June, 1889.
[21] Soc. de Biol., 1893.
[22] Soc. de Biol., 1893.
[23] Le Progrès Méd., 1894.
[24] Tr. London Obstet. Soc., 1891.
[25] Am. Jour. Med. Sc., 1904, p. 134.

[26] Lancet, London, May 28, 1904.

to the peculiar anatomic construction which favors hemorrhage.

3. A weakness of the vessel walls, either normal delicacy or pathologic alteration favors the rupture.

4. The place of election of the hemorrhage is usually in the internal cortical zone because of its vascularity and the anastomotic arrangement of the vessel.

5. The bleeding always follows active or passive congestion.

6. Passive congestion may be caused by difficult labors, obstetric operations, thrombosis, or, in short, anything that would favor venous stasis.

7. Active congestion is induced by infection or any toxemia which incites hyperemia by a superactivity of the gland.

8. The findings of the pneumobacillus of Friedlander in the two cases reported here and other bacteria in five additional cases proves beyond question that infection is a cause of adrenalin hemorrhage.

9. Death results either from loss of blood or an interference with the physiologic function of the gland.

CASES FROM LITERATURE.

Dudgeon:[25] Female, age 2 years and 8 months. On admission, very ill; temperature 101 F.; abscess on left side of neck; double otorrhea. Had frequent screaming "fits" but no convulsions. Child grew rapidly worse; temperature 103 F.; semicomatose. There was purpura on left leg.

Autopsy.—Thrombosis of the superior longitudinal sinus and the cerebral and cerebellar veins; extensive purpura; hemorrhage in left adrenal and left kidney; thymic abscess. Staphylococcus aureus and albus cultivated from the heart's blood. The left adrenal was a coffee colored mass; no hemorrhage in the surrounding tissue.

Microscopic Examination.—There were numerous hemorrhages all through the medulla of the left adrenal. The capillaries were over distended and in many places the walls of the blood vessels were ruptured. This case, though not a young infant, is reported because of the positive bacteriological findings which are so rare.

Dudgeon:[25] Female, age 1 year and 10 months. Gangrenous varicella; tubercular mesenteric glands, tuberculous ulceration of the intestines; double adrenal hemorrhage. Pure culture of pneumococcus from heart's blood and adrenal glands. The parenchymatous tissue was wholly replaced by a blood clot; the capillaries were engorged with blood.

Dudgeon:[25] Male, 14 months old. Bronchopneumonia, sudden death; double adrenal hemorrhage; other abdominal organs healthy. The whole of the adrenal medulla was composed of blood clot. The capillaries of the medulla and cortex were greatly distended.

Talbot:[27] A well nourished child, 5 months old, with severe abdominal pain, vomiting and in convulsions. Autopsy showed double adrenal hemorrhage.

Talbot:[27] Five-months-old child suddenly seized with abdominal pain, vomiting and convulsions. Temperature 101 F. Double adrenal hemorrhage.

Riviere:[28] Reported four cases all under 1 year. They had vomiting, diarrhea and fever. Death occurred within 48 hours, except in one case, in which it came within 12 hours. All showed hemorrhage of suprarenal capsules.

Little:[29] Reports the case of a child, aged 4 months, with purpuric eruption. Death occurred 24 hours after the onset of the illness with hemorrhage in both adrenals.

Little:[29] Male child, 13 months old, with diffuse purpuric eruption, convulsions, cyanosis and a fever of 108 F. just before death, which took place 24 hours after the child was taken sick. There was a large hemorrhage of the right adrenal. The left adrenal also showed numerous hemorrhages.

Steffen, quoted by Aurand:[2] Child, 7 days old, was operated on for a hare lip. Died because of diarrhea and insufficient nutrition. There was hemorrhage in both adrenals with putrid transformation.

Langmead:[26] Baby, aged 3 days. On morning of third day, the breathing became grunting in character and the child moaned; the same evening he had a convulsion and blood ran from the nose and mouth and he died in half an hour. Neck, face and head were covered with purpuric eruption. The internal organs were all normal except the lung and the suprarenals. The lower lobe of the right lung contained a large hemorrhage which could be traced up into the trachea and larynx and was evidently the source of the blood seen internally. Both suprarenals were hemorrhagic.

Langmead:[26] Boy, 2 months old. Purpuric eruption on face, chest and abdomen. At postmortem nothing was found except the purpura and suprarenal hemorrhages. They were distended with blood.

Langmead:[26] Girl, aged 7 months. Awoke screaming at 3:30 a. m.; temperature 99.2 F. At 6 p. m. the temperature was 104 F. and she was covered with an intense purpuric eruption. She died 22½ hours after her first screaming fit and 12 hours after the purpura had appeared. Postmortem there was nothing found but the purpura and hemorrhage of the adrenals which were two masses of black blood clot, nearly half the size of the kidneys themselves.

Pick:[30] One of twins. Labor very difficult. First child was breach. After three hours, second child. L. O. A.; version failed; then child was delivered with high forceps; asphyxiated but breathed after hour and a half effort at resuscitation. Born at *noon*. At 5 a. m. next day the nurse noticed second child had stopped breathing. Autopsy showed diffuse hemorrhagic discoloration in liver; right adrenal showed hemorrhage the size of a dime. The left adrenal also contained blood.

Anderson (quoted by Pick[30]): A child, 15 months old, died of suprarenal hemorrhage, which he attributed to acute toxemia, probably infectious.

Abt:[31] Reports two cases of small hemorrhages in the suprarenals incidental to more serious hemorrhages in other organs.

Hamill:[32] Reported a case dying on the seventh day from an acute infection. The right adrenal was congested and the left hemorrhagic. The suprarenal condition in this case was of minor importance and only incidental to other important findings. Cultures showed staphylococcus pyogenes aureus from heart's blood, umbilical cord and lungs.

Woolley:[33] Girl, 11 months old, had measles. Hematoma in right renal region the size of a goose egg; right adrenal embedded in mass and showed no sign of rupture. The hemorrhage did appear to have come from the gland though its source was not ascertained. The gland was slightly enlarged and firm, almost black, central vein obstructed apparently by thrombi. Microscope showed tissue of gland seemed to have been completely replaced by hemorrhage except for a few nuclei. The thrombus was a laminated fibrinous one, no bacteria.

Lieutaud:[34] Child of 15 days died after three days of convulsions. Adrenals a little larger than eggs of pigeon. In the interior is an irregular cavity containing an inky liquid.

Petit: Boy delivered with forceps; bronchopneumonia; right adrenal was transformed into a large hematic cyst.

Coleman:[35] Child, 10 months old, admitted to hospital with acute fever of a day's duration and a bullous eruption which had been present only a few hours; there were a few purpuric spots. The child died about an hour after admission; autopsy performed a few hours after. Both suprarenals showed diffuse interstitial hemorrhage. Cultures were made with negative results.

Hengge:[36] A child, weighing 2,200 gm., had, on account of a contracted pelvis, been delivered by podalic version. The child was asphyxiated but was resuscitated by Schultze's method; when thirty hours old icterus appeared and it died when three days old. Autopsy showed beside numerous ecchymoses of the pleura, pericardium and peritoneum extensive hemorrhage in both adrenals especially between the capsule and the cortex.

Oberndorfer:[37] Child died after a very difficult artificial breech delivery, was in asphyxia pallida. Autopsy, extensive bleeding in abdominal cavity through a rent 1 cm. long in capsule of the liver. Both adrenals were reddish blue tumors the size of a walnut. The microscope showed that the medulla was completely destroyed and only small fragments of the cortex were left.

Oberndorfer[37] (Case of Kleinschmidt and Romme): IIpara with contracted pelvis. The extraction of the thorax was very difficult. Schultze's methods employed for asphyxia. On the fourteenth day child died of weakness and icterus.

Autopsy.—Both suprarenals almost as large as kidneys, reddish brown in color. The microscope showed that almost all of the suprarenal substance was destroyed. The case is interesting because the child lived ten days after the hemorrhage as was shown by the age of the clot, and we are justified in concluding *that the child died from cessation of the suprarenal function and* that it lived as long as it did because not all of the gland substance was destroyed. Oberndorfer called it a case of acute Addison's disease.[38]

ABSTRACT OF DISCUSSION.

Dr. S. M. Hamill, Philadelphia: Hemorrhage into the suprarenal capsule is usually a manifestation of some form of *infection in the newly born, and,* as has been said, any one of a number of infections may produce these hemorrhages. From an extensive experience in autopsy work in the newly born, I believe that hemorrhage into the suprarenals is very common and that the evidence is sometimes microscopic instead of macroscopic. I have found some degree of hemorrhage in infections due to the streptococcus, staphylococcus, pneumococcus, *Bacillus pyocyaneus*, the colon bacillus and a micrococcus I was unable to classify. We may have infections with the pneumococcus without any evidence of pneumonia. Another striking feature about these cases is the early period of life at which the symptoms develop. The earliest manifestation in one of Dr. Litzenberg's cases was some disturbance of the stool. This has been a very early and usually the first symptom in my own cases, and suggests that the gastrointestinal tract may be the channel of infection in some cases.

Dr. Abraham Jacobi, New York: It makes me sad that there are not five times as many men and women present to

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27. St. Bartholomew's Hosp. Rep., 1900.
28. Tr. Path. Soc., London, 1902.
29. Brit. Jour. Dermatol., 1901, p. 451.
30. Med. News, May 13, 1905.
31. The Journal A. M. A., Jan. 31, 1903.
32. Arch. Pediat., September, 1903.
33. Montreal Med. Jour., June, 1902, xxxi, 435.
34. Thes. de Paris, 1896.
35. Lancet, London, May 7, 1898.
36. Münchner med. Wchnschr., 1904, No. 48.
37. Wiener klin-therap. Wchnschr., June 18, 1905.
38. The following references may also be consulted:
    Routier: Soc. de chir., 12, December, 1894.
    Voelker: Path. Rep. Middlesex Hosp., 1894.
    Andrews: Tr. Path. Soc., London, 1898.
    Merkel: Ziemssens Cyclop., 1878, Vol. viii.

hear this paper. It is a fact that many babies die during their first week. I have seen many cases and have attributed death to meningeal and cephalic hemorrhages, which were demonstrated by the autopsies. I could account for them only on the ground of a weakness of the vessel walls and the shallowness of the impressiones digitatæ of the interior of the skull, and the injuries caused to the head during labor. Dr. Litzenberg explains many things, but there is one thing more that I want him to find out: why the infants die so suddenly. What is it that the suprarenal capsules do that these babies should die so suddenly while comparatively well? What is the influence of the suprarenal capsules on the splanchnic nerve that causes this sudden anemia and sudden death as from shock? I wish Dr. Litzenberg would communicate with two physicians in New York who have been investigating the cause of death in a woman of 45 who died very suddenly as from hemorrhage. The case was that of Dr. Bierwirth of Brooklyn, and Dr. Brooks and Dr. Ewing of New York have the case under consideration. The woman died suddenly as if from hemorrhage. The upper extremities, head and trunk were extremely anemic: all the blood was in the lower extremities. There was hemorrhage into the subcutaneous tissue, the suprarenal capsules and into the muscles, which were soft and pulp-like. Now, is there really some connection between the sudden death and hemorrhage into the suprarenal capsules? The field is fairly new and Dr. Litzenberg seems to be the one to go on with the investigation of this subject.

Dr. S. Marx White, Minneapolis: The smaller adrenal hemorrhages give a beautiful opportunity to study the relation between hemorrhage and necrosis. A little closer study will, I think, bear us out in the belief that the hemorrhage is due to the infection. There were small foci in the suprarenals that macroscopically did not indicate hemorrhage, but microscopically we found in the zona reticularis a tremendous congestion; the hemorrhage takes place in the zones of necrosis. I have seen two cases which are interesting in this connection. One was an endocarditis in a child who developed a temperature of 104 or 105 F. twenty-four hours after birth. At the autopsy, five days after birth, fibers were found at the pulmonary valve. In another case the child died on the fourth day and we found multiple foci in the lung and isolated an organism similar to, but I believe not identical with, the bacillus of diphtheria.

Dr. Jennings C. Litzenberg, Minneapolis: One of the most striking features of Case 1 was the melena, which, being due to infection, would make this case worthy of report even if there were no other conditions to attract our attention. The manifestations are indeed early; I believe that in Case I they were even earlier than I can report, on account of the nurse's failure to take the temperature on the day preceding the high temperature first recorded. I think that the extensive studies of Arnaud on the histology of the suprarenals shows definitely why the vessels break. These babies do not all die suddenly, as will be shown by the report of one of the cases collected from the literature in which there was a small hemorrhage and death was deferred, leaving us to infer that possibly a hemorrhage that is not large enough to kill by loss of blood may be sufficient to interfere with the function of the gland and cause death in that way.

Good Army Camp Sanitation.—The sanitary results accomplished by the work of the Army Medical Department at the camp of instruction near Indianapolis, recently terminated, are described by Dr. John J. Kyle in the *Indiana Medical Journal* for October. He alludes to the system of camp sanitation adopted, by which all excreta and solid garbage were completely destroyed daily by incineration and the liquid garbage disposed of by immediate evaporation or by purification in a septic tank. No serious sickness occurred, although the command averaged 6,500 men and the camping period covered over one month. Not a case of typhoid fever or dysentery originated in camp and diarrheas were rare and mild. There was an average daily sick report or less than 0.5 per cent., and it may be truthfully said there was an absolute absence of sickness due to avoidable causes.

A DISORDER DUE TO EXPOSURE TO INTENSE HEAT,

CHARACTERIZED CLINICALLY CHIEFLY BY VIOLENT MUSCULAR SPASMS AND EXCESSIVE IRRITABILITY OF THE MUSCLES. PRELIMINARY NOTE.

DAVID L. EDSALL, M.D.
PHILADELPHIA.

In 1904 I described[1] two cases that I saw in the men's wards at the Episcopal Hospital, in which remarkable muscular spasms occurred after exposure to severe heat. These patients presented none of the conditions ordinarily recognized as due to heat; there were, indeed, no symptoms of any moment, aside from the extremely striking muscular disturbance, except that both patients were slightly constipated and one had nausea and slight vomiting. The muscular spasms, however, were of a remarkable character, and in some of their details they appeared to be sufficient to distinguish the cases from other conditions of spasm that are recognized, whatever their cause.

One of the most striking features was a very conspicuous degree of fibrillary contraction, particularly in the muscles of the calf. This was of continuous occurrence, except during the frequent interruptions caused by the most marked of all the symptoms, namely, severe tonic spasms. The latter lasted for from half a minute to a minute each time they occurred and were exceedingly painful. They involved the muscles of the forearms and legs severely, but were also violent in the abdominal muscles. There was, indeed, a mild grade of continuous or nearly continuous tonic spasm of the latter muscles.

In their gross features the tonic spasms somewhat closely resembled tetany, except for the pronounced involvement of the abdominal muscles; but Chvostek's, Trousseau's, and Hoffmann's phenomena were absent. The most striking characteristic of all was the extreme irritability of the muscles to direct stimulation. While the spasms occurred spontaneously with great frequency, they were at once excited in the intervals of quiet by any attempt at voluntary use of the muscles or, frequently, by anything that led involuntarily to contraction of the muscles; and ordinary moderately deep palpation of the muscles most involved, a light tap on them, or the weakest faradic current that could be used, immediately produced locally a severe spasm, the pain of this usually leading involuntarily to contraction in other muscles, and the latter being immediately succeeded by painful and more or less general spasms in the extremities and in the abdominal wall.

The spontaneous spasms were almost entirely over within twenty-four hours or a little more, and no symptoms then remained except slight exhaustion and some muscular soreness. Slight spasm, however, could still be produced for a day or two longer by mechanical or electrical irritation, and tapping or sudden palpation still produced a very abnormal degree of fibrillary response.

The superficial reflexes were not exaggerated, and there was no Babinski phenomenon. The tendon-jerks were not excited, though the muscular contraction producing them tended in the period of greatest excitement to set up tonic spasm, as did any other muscular contraction. Sensation of all qualities (touch, pain and temperature) was normal, as were the sphincters and the pupils. The only sensory disturbance was a slight tingling in the extremities after the spasms. The respiratory and cardiac rhythms were regular, and there were no cerebral symptoms. The temperature in one patient was slightly elevated, in the other about normal. I consider the muscular contraction to be due to disorder of the muscles themselves or the terminal nerves.

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[1] Am. Jour. Med. Sc., December, 1904.

These cases were at that time extremely puzzling to me; but, since the attacks in both instances appeared to be closely associated with exposure to a high temperature, and since in one man they had repeatedly occurred before as the result of the same apparent cause, I described them as probably due to heat. I was unable to find in medical literature any mention of heat as a cause of myospasm (except, of course, the convulsions that frequently occur in heat-stroke, as a consequence of the disorder of the central nervous system), and I could find no description of any disorder that had the remarkable clinical characteristics displayed in these cases. Therefore, I looked on them as interesting curiosities, but as of little importance beyond this.

In 1907, however, while serving in the same wards (having served, in two of the three intervening years, in the women's wards), I saw again, during the hot weather, two cases of the sort. The spasms in these were less severe and they presented no noteworthy fibrillary contractions, but they had the same remarkable muscular irritability. I reported these at the last meeting of the Association of American Physicians, and also made note of the fact that I had inquired among various physicians who see a great many men employed in occupations that entail exposure to intense heat, and that these physicians had all repeatedly seen such cases, many of which had been very severe and some even fatal. I found, too, that the men themselves who are engaged in such occupations, as well as their employers, are extremely familiar with the disorder, and state that it is very common and that they have long considered heat to be the main cause of it.

So far as I have yet gone in studying the effects of various occupations, the attacks appear to occur with a frequency that is in direct proportion to the severity of the exposure to heat and to the degree of muscular labor performed by the men; and in some kinds of work, especially that performed by certain of the iron-workers and by the men employed in the firerooms of vessels, both in the merchant service and in the navy, the number of persons that suffer in this way is surprisingly large. The cases are frequently very severe, and fatal cases occasionally occur—a very noteworthy series of deaths all told, having been related to me by various physicians, and a still larger number by the workmen, some at least of the latter cases being certainly authentic.

Since my second report on the condition, in May last, I have had another case in my own wards at the Episcopal Hospital, and have seen, for other conditions, a considerable number of men who stated that they had had such attacks. I have also seen two other patients in the course of their attacks in the wards of the Pennsylvania Hospital, in the service of Dr. James Tyson. Dr. Longcope kindly directed my attention to these latter cases and helped me greatly in conducting some special studies of them. Both of these cases were severe, one extremely so.

Further inquiry has also confirmed and enlarged my knowledge of the more or less frequent occurrence of the disorder in various occupations; and a number of medical clinicians have informed me that they have undoubtedly seen it, some of them repeatedly, but have not recognized it. I have, in fact, seen the records of several cases that had been in hospitals under various indefinite diagnoses, but that appear from the records or from subsequent questioning of the patients themselves in regard to these attacks to have been almost certainly cases of this disorder. Furthermore, it undoubtedly may occur from ordinary exposure to a high atmospheric temperature in summer. One of the most striking of my own cases developed in a man whose occupation kept him on the street. How frequent this is, however, I can not state.

The disorder appears to be, therefore, a condition that is likely to be met with occasionally in the course of a general medical experience, and one that occurs in a considerable number of occupations with sufficient frequency and severity to be of very distinct importance, especially to those whose practice lies chiefly among persons whose occupations make them particularly liable to exposure to intense heat. Nevertheless, so far as I have been able to learn by a search through most of the important text-books and monographs dealing with myospasms or with conditions due to heat, and likewise so far as I have been able to determine from a study of suggestive titles of articles under various headings, it seems to have escaped recognition in medical literature, except for a brief note by Myers[2] that I have found since my first report, and a recent paper by Elliott. In Myers' article the very frequent occurrence of more or less generalized cramps in ships' stokers is commented on, and the relation of these to either heat or alcoholism, or both, and especially to the drinking water, is suggested. The paper[3] of Elliott also records the frequent occurrence of violent muscular spasms in the men employed in the firerooms of vessels (in this instance in the navy), and reports a fatal case, with autopsy, in which no gross lesions of any importance were found except congestion of the kidneys. This latter lesion, for reasons that I shall indicate in a more extensive paper, is, I think, unquestionably secondary to the main disturbance. Elliott notes the difference between these cases and those of ordinary heat-stroke or heat-exhaustion, and believes that they constitute a type peculiar to heat cases on board ship. This, however, as I have already indicated, is a misapprehension. The cases that I reported in 1904 were both in men occupied on land, as were those that I have personally seen since: and I have, as I stated, determined that it occurs in a variety of occupations.

Several officers in the naval medical service have informed me also that some years ago the disorder was repeatedly commented on in reports to the surgeons-general from the medical officers of various ships: but that in recent years, especially since these reports from ships have been published in the Reports of the Surgeon-General, it has usually been passed over or, at most, mentioned only casually, because it is such an old story to officers. Dr. Gatewood has, however, kindly pointed out to me such a report by Beyer, in 1906, in which the general severity and the main characteristics of the spasms are described and the frequency of the occurrence of the disorder is emphasized. No better evidence of the lack of a general recognition of the existence of such a condition and of any available description of it can be found than the fact that, while a large proportion of naval medical officers with whom I have discussed the matter are very familiar with the disorder, a number of others who have had extensive experience in the navy had, by some chance, never seen it or known of its occurrence Dr Gatewood tells me, however, that he now describes it in his lectures on hygiene to the students of the Naval Medical School as the most frequent form of disorder due to heat on naval vessels

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[2] Virginia Med. Semi-Monthly, Dec. 24, 1897.
[3] Mil. Surgeon, March, 1908.

I have been unable, to be sure, to secure from any of those who have seen these cases a description more detailed than that there are painful muscular spasms, which in bad cases are exceedingly severe and may even be fatal, that these are not associated with any characteristic symptoms commonly recognized as due to heat, and that tonic spasms are always present, sometimes associated with the extremely striking and more or less continuous fibrillary contractions in the intervals between the tonic spasms that I described in my first case reports These general features, however, together with the unquestionable close association with exposure to intense heat, are sufficiently peculiar and characteristic to show that the cases in the various occupations in which they occur are the same as those that I described in detail in my first paper and those seen since

The condition has such peculiar characteristics clinically as to show that it is, of course, a different disorder from heatstroke, and clearly quite different from heat prostration It appears also clinically to be different from any other recognized forms of muscular spasm In the last two cases that I have seen I was able to make some studies of metabolism, which include observations of the urinary excretion of total nitrogen, ammonia, uric acid, creatinin, chlorids, phosphates, sulphates total sulphur, calcium and magnesium. The conditions of metabolism that I found were extremely striking and essentially the same in the two cases; they have, so far as I know, no counterpart in any other conditions and are very different from any that have been observed in somewhat similar states of spasm

These studies, together with a discussion of some other less important observations that I have made regarding the pathogenesis of the disorder and a more detailed description of it and of the occupations that give rise to it so far as I can determine their number, I shall publish in a more extended paper in the *Archives of Internal Medicine* when I can get them completed At present I would mention that the condition of metabolism, together with the clinical features, indicate that it is an individual disorder, and it seems extremely probable that it is due to an acute degenerative process in the muscles Aside from the peculiar interest of this latter point in relation to this particular disorder, it is of such interest in relation to various clinical and physiologic problems in metabolism that it is highly desirable that portions of muscle be secured for purposes of study. It is largely for this reason that I publish this note I trust that I may accomplish this myself, but I hope also that those who not infrequently see these cases may do so, either by obtaining some muscle from a fatal case or by removing a portion under local anesthesia during or immediately after an attack

1432 Pine Street

Clinical Notes

TRAUMATIC PNEUMOTHORAX.

W L MOSS, M D
In Charge of Research Laboratory of Phipps Dispensary Johns Hopkins Hospital
BALTIMORE

The following case seems of sufficient interest to report because of its unusual mode of production, and of a curious difficulty in diagnosis:

Patient—G H H, male, aged 49, married

Family History—Unimportant The patient's father died of measles at 25 years His mother died at 60, cause unknown His only brother died of meningitis at 25 years of age after a sickness of four days His wife is living and well Two sons, aged 20 and 11 years, are living and well Six children died in infancy at ages varying from 3 months to 4 years—one of diphtheria, one of bronchopneumonia and four of cholera infantum

Past History—Good As a child the patient had measles, whooping cough and mumps, no other sickness except an attack of "shingles" seven years ago, which kept the patient in bed for three months During this time there were repeated eruptions of herpetic vesicles over the right side and front of the lower thorax which were very profuse and discharged large quantities of 'corruption" Since this attack the skin over the affected area 'has a feeling of deadness," and it has been necessary to use a flesh brush constantly to "keep up the circulation in this part of the body "

Present Condition—The patient is five feet nine inches tall, weighs 190 pounds, and is of good habits, does not indulge in tobacco or alcohol By occupation a wholesale grocer, he leads a sedentary life and at the time of the accident was taking his first vacation in a number of years While mountain climbing he stepped on a smooth, wet rock, his feet shot out from under him and he sat down with great force The patient says that the pain caused by the fall was very intense It was located in the "small of the back," in the "pit of the stomach," and, in addition 'there was a sensation as if something had been jarred loose in the abdomen" For a few minutes he was unable to rise, but finally with the assistance of his son, he got up and made his way up a steep path back to the hotel The patient was first seen in consultation the day following his injury He was lying in bed on his back, apparently suffering great discomfort It was said that he had been unable to have a movement from his bowels or to empty his bladder since the accident It was thought that perhaps some injury to the spinal column had been received, resulting in a lower cord lesion A hasty examination revealed no disturbance of sensation in the lower extremities, rectum penis, or anywhere over the body nor was there any paralysis present After the patient had been assured that there was no injury to the spine about which he was apprehensive, he urinated spontaneously and his bowels were moved by enemata A systematic examination was now undertaken

Examination—The patient's temperature was 102, pulse 120, respiration 30 No asymmetry of chest or inequality of movements was noted Abdominal respiratory movements were well marked

Lungs Percussion note was dull over right upper front and back The note over left front and back was resonant Vocal fremitus was increased over areas of impairment On auscultation the breath sounds in right upper front were harsh and blowing, and over the middle of right back they were definitely tubular but no râles were present Auscultation of the left lung was normal

Heart The right border was not accurately defined The left border extended 2 or 3 cm to left of mammary line The sounds were distant but regular in rhythm No murmurs were heard

Hypochondrium In the right hypochondrium extending a hand's breadth above the costal margin in the mammary line and well around into the right side was an area of tympany which resembled gastric tympany. In the left hypochondrium in the region of the stomach the percussion note was flat.

Abdomen: This appeared natural; no unusual fulness; respiratory movements were good: no tenderness or masses were present and the liver could not be palpated.

Reflexes: Normal.

Special Examination: The patient complained of great pain on any movement of body. There were no contusions present. The spines of the vertebræ could be palpated; pressure over them elicited no pain. Pressure over lower ribs did not elicit crepitus or special pain. No injury to the pelvis could be made out. It was deemed unnecessary and inadvisable to make more extensive examination owing to the discomfort of the patient.

Diagnosis.—With the natural propensity for choosing the most difficult, instead of the simplest and commonest explanation of a given sign, a probable diagnosis of situs transversus was made and with difficulty left unexpressed. Feeling a strong desire to determine if a transposition of the abdominal viscera really existed, I asked permission of the attending physician to follow the case. The next day the patient was seen again. The area of tympany in the right hypochondrium persisted but there was the usual gastric tympany in the left hypochondrium which followed the normal outlines of the stomach, so that the thought of an anomalous position of the stomach and liver had to be abandoned. The patient's condition remained practically unchanged. Temperature was slightly lower but pulse and respirations remained elevated. The consolidation in right upper front and over middle of right back persisted. Râles, which had not been heard on the preceding day, were now heard. Diagnosis remained bronchopneumonia of traumatic origin. The intense pain which the patient suffered and referred vaguely to his back was ascribed to muscular strain or to some wrench given the back in falling. It remained to account for the area of tympany in the right hypochondrium. The possibilities considered were: 1, rupture of the intestine, due to the fall, with escape of gas, obliterating the liver dulness (the existence of any old adhesions about the intestine might have facilitated this result); 2, diaphragmatic hernia; 3, atony of the intestine, due to shock and consequent tympanites with obliteration of the liver dulness by the distended colon; and 4, pneumothorax. The first condition could be readily excluded, as the patient's condition at the end of forty-eight hours precluded general peritonitis. The temperature was falling, abdomen soft, respiratory movements good. Diaphragmatic hernia seemed improbable, especially as the right side of the diaphragm is protected to a considerable extent by the liver. Repeated auscultation over the tympanitic area failed to reveal any intestinal sounds. These, of course, might have been absent if the hernia had been strangulated, but the absence of signs of obstruction negatived the idea of strangulated hernia. Atony of the intestines with consequent distention, especially of the colon, might have given tympany in the right hypochondrium, but this would hardly have extended as high as a hand's breadth above the costal margin, obliterating entirely the liver dulness. The fact that there was no distention of abdomen, no marked tympanites and that there had been several movements from the bowels in the two days since the accident made it possible to exclude this condition at once. The patient was then examined with the view of determining if the condition was pneumothorax. The symptoms and signs in favor of pneumothorax were the pain, temperature, rapid pulse, and respirations, tympany, absence of vocal fremitus and breath sounds over tympanitic area; extent of the cardiac dulness to the left without anything to indicate or account for its enlargement. No tinkling râles were heard over the area of tympany; the liver could not be made out in a depressed position. The coin sound and succussion splash were not attempted on account of the discomfort caused by any examination requiring the patient to move his body. On the above grounds the diagnosis of pneumothorax was made.

Clinical Course.—It was with interest that the further course of events was watched for confirmation of this diagnosis It was predicted that in the course of a few days the air in the pleural cavity would be absorbed, the lung expand again, normal liver dulness appear, and the left border of the heart move in toward the mid-line. By about the tenth day this had taken place. The percussion note over the entire right lung was resonant, resembling that over the left lung, the resonance extending down to about the seventh rib where the liver flatness began and continued to the costal border in the mammary line. There was no longer any tubular breathing and the only abnormality to be made out on auscultation was the presence of moist râles at the bases of both lungs behind, probably due to hypostasis. The left border of the heart was well within the mammary line. During these ten days the temperature gradually fell to normal, but the pulse remained high, ranging around 100, until the area of tympany entirely disappeared from the right side. During the course of the disease another consultant was called in and found that pressure over one of the lower ribs on the left side (contralateral to the pneumothorax) caused considerable pain, but no crepitus could be made out and at no time subsequently could any callus formation be detected. It seems hardly possible that there could have been a fractured rib, but even admitting the possibility of such, its existence on the left side could scarcely have produced a right-sided pneumothorax without causing symptoms referable to the left lung as well.

It seems possible that the pneumothorax may have been produced in the following way: The patient's feet slipped out from under him and he fell to a sitting posture. The sedentary life of the patient had probably led to an atonic condition of his muscles. His reaction time was slow so that the abdominal muscles were probably relaxed when he struck the rock on which he fell. The liver, a heavy organ suspended by its coronary ligament from the diphragm, being thus unresisted, caused a sudden depression of the diaphragm. At the moment of the fall the patient "caught his breath" (closed the glottis). The tug of the liver on the diaphragm was transmitted to the lung, which, owing to the suddenness of the pull and the inability of the air to rush in and permit of complete expansion, was torn. It is not necessary to suppose that there was closure of the glottis at the moment of the fall. In the event that there was free access of air the rupture of the lung may have been due to overexpansion of the lung when the diaphragm was suddenly depressed by the liver. If old pleural adhesions existed, the tearing of the lung might have been facilitated. Inquiry into the patient's past history, however, did not reveal anything definitely indicating a cause for pleural adhesions, unless they might possibly have been associated with the attack of "shingles" seven years previously, which he described as occurring on the right side and discharging much "corruption."

GASTROSCHISIS.

CHILD BORN WITH ABDOMINAL CLEFT.

C. B. FORSYTH, M.D.
ALEXANDRIA BAY, N. Y.

The following case is reported, not for its extreme rarity, but for the fact that the child lived for a day:

Labor.—Mother, aged 17, at no time manifested any abnormality. Labor came on at the eighth month of gestation. The membranes ruptured spontaneously, emitting a large amount of yellow tenacious fluid resembling the thickened bile from an infected gall bladder. The child was presented in left occipito-anterior position, but pains were insufficient to complete labor and forceps were used.

Description of Child.—The child was normal except the abdomen, which contained a cleft three inches long with the umbilicus as its center. The peritoneum was continuous with the skin at the margins of the aperture, and extruding therefrom were the stomach and the entire small intestine. There was no pulsation in the cord and no other sign of life. In order to make the child presentable for its parents' inspection I replaced the viscera and in so doing expelled a large quantity of the same yellow amniotic fluid from the mouth and nostrils.

Subsequent History.—After suturing, I resorted to artificial respiration and was rewarded by a feeble inspiratory movement. The child soon began to breathe regularly and cried lustily; the bowels and kidneys functionated several times and the child nursed, but kept up a whining cry until it died, twenty-six hours after birth.

A CASE OF SEVERE ANEMIA, PRESENTING BLOOD FINDINGS OF A PERNICIOUS TYPE: RECOVERY.

ROLAND HAMMOND, M.D.
PROVIDENCE, R. I.

The following case is reported because of the remarkable blood findings while the patient was under observation at the hospital, and because of the interval which has elapsed—now five years—in which no relapses have appeared, and during which time the patient has been in the best of health.

I am indebted to Dr. Edmund D. Chesbro, visiting physician to the Rhode Island Hospital, for permission to report this case. The careful and complete blood examinations during 1903 are by Dr. Albert A. Barrows.

Patient.—S. McC., a carpenter, aged 46, born in Nova Scotia, entered the Rhode Island Hospital July 14, 1903, suffering from a severe anemia.

History.—Two and a half years previously he had a severe attack of diarrhea, followed by malaria lasting three months. Since then he had not felt so well as formerly and his color had not been so good, though he worked for one year after this illness. Five months before entering the hospital he had influenza and was ill for three weeks. Since then he had failed gradually in strength and at time of entering hospital complained of great weakness, dyspnea, dizziness, ringing in the ears, blurred vision and failure of eyesight, and a feeling as if hot steam were being placed on his neck and the back of his head. Two years before he was seen he had been kicked by a horse in the left lower back and side, and had a "catching" pain there at times since then. Had had "rheumatism" in the right knee twenty years ago. His habits were good and he denied venereal disease. His father and grandfather died of heart disease.

Examination.—He was a well-developed and well-nourished man of large frame with skin and conjunctivæ pale and yellow-tinged. The mucous membranes were very pale. The heart was not enlarged, but a soft, blowing, systolic murmur was heard at the apex, not transmitted. The lungs gave a few fine, crepitant râles at both bases behind. The liver and spleen were not enlarged. There was some edema of the legs. The knee-jerks were active.

Progress of the Case.—At first, as the blood became depleted, the weakness, nervous and dyspeptic symptoms and headache became marked. With improvement in the blood, however, the general condition became much better. Toward the last of his stay in the hospital he complained only of headache and dim vision. A diarrhea began a few days after admission and lasted ten days. There was some fever, the temperature at times reaching 100 to 101 F. The urine was frequently examined and was always of a normal color, specific gravity averaging 1.015, containing a very slight trace of albumin, and a rare hyaline and finely granular cast.

The details of the results of the blood examination are given in the accompanying tabulated statement. The treatment is also given in this table.

TABLE OF BLOOD FINDING IN A CASE OF SEVERE ANEMIA.

Date (1903).	Hb. per cent.	Reds.	Whites.	Stained Smear.	Medication.
July 14......	34	3.408,000	2,440	Well-marked poikilocytosis, a few megaloblasts, not typical, but transitional forms.	July 17, Fowler's sol. m. v.; Tr. Fer. Clor. m. x.
July 29......	20-25				
August 3....	20	1.172,000	4,660	Marked poikilocytosis. High color index. No marked general increase in size. No blasts seen. Occasional red cells show basophilic granules.	July 31, Fowler's sol. omitted.
August 6....	15	644.800	3,200	Marked poikilocytosis. Color index relatively high. Slight general increase in size of red cells. More megaloblasts than normoblasts.	
August 8....	15	846.000	5,200	General increase in size of reds. Color index relatively high. Occasional blasts. normoblasts more common than megaloblasts.	Iron omitted. Fowler's m. i. Aug. 9, Fowler's m. iii.
August 11....	..	690.000	6,400	Marked poikilocytosis. Relatively high color index. General increase in size of reds. Moderate number of blasts, more normoblasts than megaloblasts.	Aug. 13, Fowler's, m. viii.
August 15....	15	168.000	3,200	Marked poikilocytosis. Color index high. Slight general increase in size of reds Occasional normoblast.	Aug. 17. Fowler's, m. xii.
August 19....	20	876,000	5.800		
August 24....	35	1,088,000	3.320	Moderate poikilocytosis. General increase in size of reds. No blasts seen.	Aug. 22, Fowler's. m. xvi. Aug. 24, Fowler's, m. xviii.
September 1..	38	2.260,500	5,000		
1904. Counts made in summer of 1904 and stained smear in September, 1904, showed approximately normal blood.					
1905. May 29......	85-90	5,160,000	7,800	Red cells normal in color, size and shape. Differential white count negative.	
1908. July 10......	85	4,101,000	7,100	Red cells normal in color, size and shape. Differential white count was negative.	

This case is remarkable for the severity of the anemia with recovery. The blood examination shows the rapid variations of the disease. This case shows the third lowest red count on record, and is the only case in which the patient has lived more than a few months. Quincke reported a case in which the red cells dropped to 143.000 per c.mm. The count later rose to over 1,000.000 and the patient lived several months. Hills[1] reported a case in which the red cells reached the low count of 155.280 per c.mm. The patient lived only a few weeks. The low count in the case here reported was 168.000. and the return of the blood to normal was unusually rapid.

266 Benefit Street.

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[1] Boston Med. Surg. Jour., Dec. 1, 1898, p. 542.

Skin Diseases in Children.—W. B. Brown. in the *American Journal of Obstetrics*, states that skin diseases in children differ little from those observed in adults. Children, however. not being subjected to various occupational and trade influences, do not suffer from diseases due to irritation. They seem more susceptible to pus infection: therefore. secondary infection must be borne in mind and, in fact, looked for in making a diagnosis.

Therapeutics

CARDIAC DISEASE.

A woman, aged 63, of normal weight, on Sept. 11, 1908, complained of her legs feeling weak and of breathlessness on going up stairs or walking. "The knees give out," she says. She also had dyspnea on any exertion. She looked well, her appetite and digestion were good, the bowels acted normally, the pulse was 85, rather weak and of low tension, though the arterial walls showed some hardening. The heart was slightly enlarged and the sounds were not normally loud. There was a constant rough, systolic blow at the base, which was transmitted up the aorta, showing a narrowing at the aortic orifice. The urine was negative, of rather low specific gravity, and the amount about normal. There was no edema or signs of loss of compensation other than the dyspnea.

The diagnosis was general arteriosclerosis with low blood tension due to weakness of the cardiac muscle, especially of the left ventricle, with a sclerotic condition of the aortic valves.

The treatment was to do as little walking as possible, to go up stairs only when absolutely necessary, and then slowly, and to take five drops of the tincture of strophanthus, in water, three times a day, after meals.

September 16.—The patient feels better and breathes better, and the pulse tension is greater than when last seen. Lest the heart be too much stimulated or the blood pressure too much raised in this arteriosclerotic condition, the strophanthus was reduced to four drops, in water, three times a day, after meals.

September 23.—The patient says she feels stronger, but still is breathless on going up stairs, and the pulse is again soft and weak. Her general condition is excellent. She is now to take six drops of the tincture of strophanthus, in water, three times a day, after meals.

October 12.—Her strength has now improved. She can walk better and go up stairs without much dyspnea, but she awakens in the middle of the night (and has done this for ten days) with distress, which she refers to the chest, and thinks perhaps may be due to gastric flatulence. She gasps for breath for several minutes, and feels at times, she says, "as though I would die." On her own initiative she stopped the strophanthus drops, thinking they might be causing the condition, but she found these dyspneic attacks occurred the same as when she was taking the medicine. In spite of these night attacks of asthma, as she calls it, she is stronger to walk and to go up and down stairs. Her pulse was 96 and still weak (she had stopped the strophanthus for two days). With the heart acting weakly and the blood tension low, it is impossible to tell whether this heart needs extra stimulation in the way of a strong cardiac tonic or whether vasodilation is needed to relieve the pressure ahead, even if the blood tension is low. Consequently, first to test the need of the heart, she was given a fat-free tincture of digitalis (the fat-free being less likely to disturb the stomach) in a dose of five drops, in water, three times a day, after meals.

October 14.—She had a very bad attack of asthma and cardiac depression last night. The pulse is reduced to 72, but is still weak in spite of the digitalis. Evidently the digitalis thus given is not the right treatment for her; it stimulates the heart to more active contractions, but the resistance ahead at the aortic valve is sufficient to make such increased action pernicious; consequently, the cardiac asthma or dyspnea at night was aggravated. She was now given a tablet consisting of 2 minims of the tincture of digitalis, 2 minims of the tincture of strophanthus, ¼ minim of the tincture of belladonna, and 1/200 of a grain of nitroglycerin, to take one tablet three times a day, after meals. She was also given some nitroglycerin in tablets, each 1/200 of a grain, to take when she had one of these night attacks. She was told to let this nitroglycerin tablet dissolve in the mouth and repeat it every fifteen minutes for two, three or four times if the dyspnea continued, or until there was relief. She was also told to drink but little liquid between supper and bedtime so that the blood vessels would not be over-full or the heart subjected to the necessity of circulating an increased amount of fluid. She was told to sleep with the head a little higher than was her custom, as she had been using but one small pillow. This raising of the head and shoulders often prevents attacks of cardiac asthma at night.

October 17.—The patient has had but one attack of cardiac dyspnea at night since last seen, and that was not severe. The pulse tension is better and the heart's action is stronger, and she can walk and go up and down stairs with much less disturbance; in other words, her condition is improved. Again fearing an over-digitalis or strophanthus action on this heart, which is wavering between too strong contractions and a tendency to loss of compensation from weakening of the muscle, the cardiac tonic tablet was reduced in frequency to twice a day, one after breakfast and one after (noon) dinner, for the action of the digitalis and strophanthus during the periods of day when the heart must work the hardest. She was then told to take one of the 1/200 nitroglycerin tablets regularly at bedtime, this not to be dissolved for quick, immediate action, but to be swallowed with a drink of water. The object of this was to lower the general blood pressure at a time when a higher blood pressure or increased activity of the heart was not needed, namely, at night. It should be stated that the diet has been correct from the first, viz.: meat but once a day, and simple, sensible, non-stimulating food and drink.

October 21.—She has had no attack of cardiac dyspnea since she was last seen. She feels stronger, has no cardiac pains, and is sleeping perfectly. The patient was dismissed with instructions to continue the cardiac tonic tablets for another week at the rate of two a day, and then to reduce them to once a day, and that to be taken after breakfast, and after another week to cease taking them altogether. The nitroglycerin tablets were to be continued one at night for two weeks more and then she was to cease taking them regularly, but to keep them on hand for any cardiac emergency, to be taken if there occurred at any time an attack of cardiac dyspnea.

GENERAL REMARKS.

The condition is, of course, incurable. The arteriosclerosis may progress or may remain stationary for some time. She is, of course, in danger of apoplexy. She may develop angina pectoris from sclerosis of the coronary arteries or from sudden disability of the cardiac muscle. If the aortic valve continues to narrow she will have a weakened left ventricle from myocardial degeneration, and perhaps general symptoms of loss of compensation. At present, however, the condition is stationary. It has been learned that nitroglycerin to dilate the blood vessels will relieve her symptoms. At the same time small doses of digitalis and strophanthus have improved the action of the heart. Large doses of digitalis would be dangerous as tending to cause cardiac dilatation and even death. She should never hurry or hasten to do anything, she should never drink large quantities of liquid, and she should never allow herself to become constipated. Stimulants, and even much tea and coffee are inadvisable, as is anything that overstimulates the heart or increases the blood tension.

Possibly small doses of potassium or sodium iodid, as 0.10 to 0.20 gram (2 to 3 grains) three times a day, after meals, or a small dose of thyroid, as 0.15 gram (2½ grains) given once a day, may hold the arteriosclerotic process in check. Such treatment is always justifiable and sensible.

FOUL BREATH.

While this is a very frequent, it is also a preventable condition; hence it is rarely excusable for a person having once discovered that the breath is objectionably offensive to others to neglect its prevention. Perhaps the most frequent cause pertains to the teeth. There may be cavities, or there may simply be a lack of cleanliness from an insufficient use of the tooth brush and proper tooth powders, tooth pastes or mouth washes. It is also necessary, when one is alone, to remove with a toothpick particles of food which may have become fixed between closely-set teeth. All cavities should be filled and tartar deposits should be regularly removed, not only because of their likelihood to cause disagreeable odor to the breath, but of the possibility of allowing germs to develop and be swallowed. If the stomach is not in a healthy condition and the gastric juice not normal, such germs may not be killed. The proper tooth powder should be determined by the ease with which the teeth are cleaned, some requiring more friction in the powder, and others requiring more soap. The choice of the powder and the frequency with which the teeth should be brushed is determined by the results. They must be kept clean, and the cleaning must be done at least twice a day, morning and at bedtime.

If there is any tendency to alveolitis, or if purulent alveolitis is present, then antiseptic, followed by alkaline, mouth washes should be frequently used until the condition is cured, but if it tends to recur, then such mouth washes should be used once a day, continuously. For a time weak peroxid of hydrogen solutions are beneficial, especially if the acid, which is formed after its oxidizing action, is quickly washed away with an alkaline solution. If the gums are spongy a 5 per cent. solution of potassium chlorate makes an efficient mouth wash. One of the best local astringents and local antiseptics is a dilute solution (perhaps one part to five) of alcohol in water.

The teeth not being the cause of the odor of the breath, the tonsils should be examined, and not infrequently little calcareous deposits will be found in one or more crypts, or there may be a pocket of caseous deposit back of the tonsil. These should, of course, be removed and the crypts treated with some antiseptic solution and a cleansing antiseptic gargle given.

Another frequent cause of bad breath is postnasal or nasopharyngeal catarrh. If this is a chronic condition the treatment is tedious, and unless the patient thoroughly cooperates, results will be unsatisfactory. The proper treatment of nasal and nasopharyngeal catarrh can only be determined by a study of the individual condition. A warm cleansing solution is, of course, always important and the frequency of its use can only be determined by the rapidity with which the secretion forms deposits.

In atrophic rhinitis the odor is terrible, and, unfortunately, the condition is generally incurable; but there is absolutely no excuse for such a patient polluting the atmosphere of the rooms in which he works or lives. The odor can be prevented by the proper use of mild antiseptic and cleansing solutions.

Wylie, in the *West London Medical Journal,* April, 1908, says that it is useless to expect to clear away fetid accumulations in the nose and nasopharynx with antiseptic solutions, as they do not possess the power of dissolving mucin and albumin, the principal constituents of the crusts. He believes the best solvent is a 1 per cent. solution of sodium sulphate or a 0.5 per cent. solution of sodium borate, in water. He would douche the nose thoroughly with this solution (which must be warmed) until the "crusts and caseous matter" have been removed; then antiseptic solutions may be employed by means of sprays. If the mucous membrane is not degenerated and is still sensitive, he would spray with "liquid paraffin containing menthol, oil of cinnamon, or eucalyptus," but if the fetor is great, and in bad cases of atrophic rhinitis where the mucous membrane is not very sensitive, he would sparingly use Dobell's solution. This solution is as follows:

℞.	gm. or c.c.		
Phenolis	1		m. xv
Sodii bicarbonatis	3		
Sodii boratis	3	or	āā, gr. xlv
Glycerini	10		fl.ʒiiss
Aquæ, ad	200		ad, fl.℥vii

M. et Sig.: Use as an antiseptic gargle or as a nasal antiseptic spray.

Wylie attempts to restore healthy secretions by gentle stimulation with a snuff composed of boric acid and attar of roses, but if the disease is atrophic in type and the secretion scanty he uses a very weak formaldehyd solution as a nasal douche. He wisely cautions against carelessness in nasal douching. The very slightest excess of pressure should never be allowed, else the liquid or secretion may be forced into a eustachian canal and middle-ear inflammation follow. He also suggests a nasal douche of "boiled and decanted sea water."

He removes hard crusts painlessly by first subjecting the nasal passages to inhalations of steam, camphor being added to the hot water as a stimulant.

Other causes of disagreeable breath are constipation and dyspepsia. The cause of these conditions should be treated, and as the tongue becomes clean and the pharynx less congested the breath will become better.

Laryngeal and bronchial inflammations and catarrhs, of course, are other causes of bad breath. If the condition is acute or subacute, it can soon be improved by proper treatment. If the condition is a chronic one, mild antiseptic inhalations will largely prevent the fetid condition.

℞.	c.c.		
Creasoti	1		m. xviii
Olei pini silvestris	10	or	fl. ʒiii
Tincturæ benzoini compositæ, ad	100		ad, fl. ℥iv

M. et Sig.: To inhale a teaspoonful from boiling water one, two, or three times a day.

The bad breath of acutely sick patients, as with typhoid fever, pneumonia, or other serious illness, can be minimized by the proper care of the mouth, tongue and teeth by the nurse. Even the bad breath of patients suffering from incurable disease may be bettered by good advice and simple local care.

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EXPERIMENTAL CHEMOTHERAPY.

The recent address by Professor Ehrlich before the German Dermatological Association contains so much that is novel and suggestive that a statement of the chief points can not but awaken interest. While the specific curative action of mercury and iodid of potassium in syphilis is unquestioned, yet it is entirely unknown in what way they act. In order to throw more light on this phase of therapeutic action it is necessary to break away from the beaten paths of investigation and to start out on new lines. As long as twenty-five years ago Ehrlich showed that when a certain coloring matter is injected into a living animal it may stain only certain tissues, e. g., those of the nervous system, indicating that there is a peculiar avidity on the part of this particular tissue for the stain. Hence grew the side-chain theory which has proved to be of such tremendous importance in immunologic investigation, and the essential point in this theory is that certain substances may act on a tissue, or cell, or parasite, only when it is taken up by the body acted on. Ehrlich states that to understand the relation between the chemical composition of a remedial agent and its action it is necessary to determine how the substance is distributed throughout the body and where it is anchored and causes its special effects. We see that Ehrlich here is building still further on his lateral chain hypothesis, and we now turn to this recent work with trypanosomes.

When it became clear that sleeping sickness and other forms of trypanosomiasis were not curable by serum therapy, search was started for chemical substances to destroy the parasite in the body. The difficulty is to find chemical substances that will destroy the parasite and at the same time cause no injury to the host. Under the name atoxyl (sodium aminophenyl arsenate) a form of arsenic was introduced hopefully a few years ago, but it did not give satisfactory results in trypanosomiasis because the trypanosomes, especially in animals, soon become immune to its action. In other words, as Ehrlich would say, the microbes lost certain of their chemoreceptors so that the atoxyl no longer was bound. Recently Ehrlich and his coworkers have succeeded in producing an enormous number of new combinations and variations of this substance, and these they have tested biologically on a large scale. Toxic as well as non-toxic derivatives have been obtained, some being, for instance, 1,500 times as poisonous as others. Thus there is one substance that causes such changes in the brain or ear of mice as to turn them into the so-called dancing mice; others cause icterus or diarrhea; others renal lesions—different combinations producing different lesions. On testing the substances on animals with trypanosomiasis it was found that one (acetylarsanil acid) would cure mice even if given only a few hours before death occurred in the controls. But this substance did not seem to act directly on the parasite, but either by being changed itself within the body or because it causes trypanosomicidal substances to form in the body. Ehrlich reasoned that the effect might be owing to reduction products as a result of the reducing power of the animal tissues, and by reduction experiments outside the body, substances of extraordinary action have been obtained. Whereas a 5 per cent. solution of the original acid did not have any influence on trypanosomes in the test-tube, new substances have been obtained solutions of which in concentration of 1 to 100,000 kill the parasites at once and in thirty minutes when diluted 1 to 1,000,000. Hence arsanil acid probably does not act as such in the body but by virtue of its reduction products.

As stated in the foregoing, Ehrlich postulates that the protoplasm of cells contains certain chemical groups which anchor chemicals in the same way as bacterial poisons are assumed to be fixed to the cell, and he now believes that he has found a substance which has an intense avidity for trypanosomes and which is not very toxic. Indeed, it cures advanced trypanosome infections in mice and rabbits even after a single injection, thus reaching the same ideal of direct therapeutic effect that so far has been achieved only by certain antitoxic sera. While these results do not apply directly to human beings they certainly are full of promise, and no one can say that some day great enrichment of therapeutic resources may not come from this splendid work.

HONEST AND DISHONEST BIBLIOGRAPHIC WORK.

Not long before his death Virchow wrote a scathing criticism of some features of current German medical literature. He especially criticized the pretense to erudition shown in the reproduction of quotations and bibliographies, and his counsel to his compatriots to "verify your references" came as a sort of shock to those of us who had been prepared to accept everything with the "made in Germany" label as authentic and authoritative. Some of us, of course, were well aware of the facts; we have seen misprints carried from one bibliography to another, cases duplicated and other errors vitiating a considerable portion of the literature of a disorder or an operation in certain instances. Of course, the Germans were not the only sinners, but their traditional thoroughness was sometimes only a fiction—a sciolistic pretense

Bibliographic references, to be useful, should include only such as have a direct reference to the subject in hand, and which bring out or elucidate some point of interest. It is only in the case of little known or new disorders or operations that anything like an exhaustive bibliography should be attempted. In that case a conscientious student of the subject does not feel particularly thankful to find a bibliography including matter that has only a distant relation to the subject which he is investigating. Many authors, in their desire to be comprehensive, have been guilty of this error. With subjects having an extensive literature an ill-selected, possibly inaccurate, list of references to a small number of papers, such as we sometimes see, even in text-books, is not only useless, but a nuisance. The only use for a bibliography of any subject is to give the reader a fair general, if not an actually exhaustive, view of the really important literature. Each reference should be to some real contribution to our knowledge, not to an uncritical rehash of facts already known. If abstracts are quoted, they should be quoted as such and not as original references. It would be better also if the full title of each article referred to were given, as well as the name of the author and the periodical, date of issue, year, volume and page. In that case the reader would have a better chance to know whether or not the reference was one that would be of interest to him. This would, of course, require a little more industry on the part of the compiler.

The *Index Medicus* and the Index-Catalogue of the Surgeon-General's Library have been a great boon to the medical profession, but, like other good things, they are capable of misuse. While the worst offenders in this matter of fake or semi-fake bibliography are those who copy without scruple from others, who may themselves be only second-hand copyists of still others, there is a probably much larger class of men who do not hesitate to do much of their reference work directly from the two above publications. This is neither entirely honest nor altogether safe. Even the full references given can not always convey a correct idea of the value of the articles listed, and no attempt to do so is made by the compilers. No reader cares much for a bibliography which, without pretending to be exhaustive, indiscriminately includes the worthless and the good, together with the duplicated publication of articles with which some writers cumber the record, practically recommending all alike as worthy of study. It is an imposition on the honest student to offer such a list of references.

It is not intended in these remarks to imply that the great mass of the bibliographic work in American medical literature is not honestly and judiciously done. The evidence, we believe, is decidedly to the contrary. Nor would we have it inferred that some of the faults we have here noticed are due to intentional dishonesty. There is a sort of carelessness sometimes in such work that can hardly be called by so harsh a name; nevertheless it is not commendable, and so far as the tendency exists it calls for condemnation. There is a temptation to sciolism among a certain class of workers in every department of human knowledge, and some medical writers capable of doing better work are guilty of it through indolence and thoughtlessness if nothing worse. As some one has said, in medical writings, above all others, absolute sincerity is the one indispensable virtue. Until that virtue has been attained there will be room for amendment.

THE ADVANCE AND RETREAT OF MEDICAL STANDARDS.

It is often assumed that practical advances, once secured, will be easily maintained, and, indeed, that the law of progress is practically automatic and irreversible in its workings. That this is not true may be readily appreciated from two half-forgotten chapters in medical history recently recalled to the mind of the medical profession of to-day.

The law of Frederick II of Germany, for the regulation of the practice of medicine[1]—which is, so far as known, the earliest modern law on that subject—proves that before the middle of the thirteenth century many recently secured or perhaps still unattained improvements in the regulation of medical practice had been anticipated on the statute-books of the Two Sicilies. Four years of medical study, three years of preliminary education, a year with a physician before regular practice might begin—all this was required for the honor and dignity of the medical profession nearly seven centuries ago. At the same time many abuses in the relations of physicians and druggists were regulated, and the purity of drugs was secured by enactment.

An article on the first American medical school by Dr. James J. Walsh[2] shows that, though we have been usually accustomed to say that the first lectures in medicine in America were given at the University of Pennsylvania in 1765, this event was anticipated by almost two centuries at the University of Mexico, where the first lectures in medicine were delivered about 1580. A complete medical school was established in connection with this university in the early part of the seventeenth century. At this medical school four years of attendance at lectures were required for graduation and three years of preliminary study before the student was allowed to enter the practice of medicine. The medical course of the Mexican medical school was founded mainly on Hippocrates, though Galen and Rhazes were also faithfully studied. The diploma of graduation from this medical school was required for practice in the important towns of Mexico. There are a number of interesting remains of this work. The first medical book ever written in America, entitled "Secretos de chirurgia," was by Dr. Pedrarias de Benavides and was published at Valladolid, Spain, in 1567. The first medical book ever published in this country was "Opera Medicinalia" by Francisco Bravo, copies of which are probably to be found in old Mexican book stores and perhaps also in Spanish collections. This would be a rare medical bibliographic treasure for American medical libraries.

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[1] The Journal, Feb. 1, 1908, p. 388.

[2] New York Med. Jour., Oct. 10, 1908

These two epoch-marking medical achievements have been all but forgotten; the dreary decadence that followed each is only too familiar to the student of medical history. A strange and melancholy phenomenon it seems that the advances in social and professional conditions attained by the prolonged and serious efforts of former generations should have been allowed to slip from the nerveless grasp of those succeeding. Therefore, these records of the past are all the more interesting because they emphasize the necessity for continued effort to advance if we would even maintain the standards set by our predecessors. The characters deciphered from these fading palimpsests of history spell both a warning and a stern, peremptory challenge to be up and doing.

Medical men are sometimes inclined to think that this generation has accomplished enough, and that too much attention is being devoted to the uplift of the profession. Yet they, better than any others, should know that incessant effort is the price, not only of progress, but of existence itself.

CHOLERA IN RUSSIA.

Cholera in Russia, which has recently caused well-founded alarm in all countries having commercial intercourse with the infected region, is reported in the Public Health Reports to be on the decrease. The present outbreak began in July and August principally in Astrakhan and Saratov, the disease having been previously absent from Russia since last January. Its appearance in the remote southeastern provinces of Russia in July did not attract much sanitary attention. In September, however, when cases began to appear in the neighborhood of St. Petersburg, the situation was justly regarded as grave.

The cases have since increased alarmingly, not only in the Russian capital but in many other parts of the country; at St. Petersburg between 6,000 and 7,000 have been recorded, with a mortality of about one in three. On the appearance of cholera at St. Petersburg the Public Health and Marine-Hospital Service sent a medical officer to Russia with orders to report on the situation. An inspection service in the interest of the United States has since been established at Libau, on the Baltic, the only Russian port from which emigration takes place to the United States. At Libau, which is connected with St. Petersburg and other infected districts by railroad, intending emigrants are detained in close quarantine for five days. If, after this period of detention, conditions are satisfactory they are allowed to go into the city and are lodged in various places under observation until their departure. Before embarking emigrants undergo final examination and all baggage is disinfected prior to being taken on board. The voyage from Libau to New York lasts from seventeen to eighteen days. Libau has a water supply from artesian wells over 200 feet deep. The last occurrence of cholera at that place was in 1892, when all the members of one family were attacked, but the disease did not spread.

The great mass of Russian emigration is via ports of other European countries whose own interests make them exercise a vigilant surveillance of suspected travelers passing through their gates. Germany's calamitous cholera experience, beginning in 1892 with the sudden appearance of the disease in Hamburg—an important port of departure for Russian emigrants—taught a convincing lesson in regard to the relation of the water supply to cholera. An epidemic causing within ten days of its outbreak 1,000 cases a day is not soon forgotten. This outbreak lasted three years, visiting hundreds of places in that country and threatening the entire world.

At St. Petersburg many conditions exist which favor the spread of cholera when once introduced. The city, built on made ground, is surrounded by a network of stagnant canals, whose water is frequently drunk by the poorer classes. Hamburg's lesson of defiled water supply should be put to practical application at St. Petersburg.

THE RELATION OF PHYSIOLOGY TO PHYSICS AND CHEMISTRY.

Compared with the utterances of one of his predecessors, it is noteworthy that Dr. J. S. Haldane,[1] in his opening address as president of the physiologic section of the British Association for the Advancement of Science, places himself without reserve among the, as he believes, increasing number of physiologists who are not satisfied with physico-chemical explanations of all physiologic facts. It seems to him, he says, *that* while the advance in physiology appears to have brought us in some ways nearer to a physico-chemical explanation of life, it has in other ways put us further off. On the one hand we are accumulating facts as to the physical and chemical source and ultimate destiny of the matter and energy passing through the animal body; on the other hand there is an equally rapidly accumulating knowledge of an apparent teleologic ordering of this material and energy which is beyond our present ability to account for by chemical and physical laws. The time is past, he says, when we can shut our eyes to this knowledge, and we must face again the old problem of life. In physiology, and in biology generally, he holds that we are dealing with facts which, so far as our present knowledge goes, differ not only in complexity but also in kind from physical and chemical phenomena. In particular he points out how impossible it is to account for all the facts of reproduction and heredity from a purely mechanistic standpoint. The difficulty does not exist if we use the conception of a living organism with its specific activities and bearing the same relation to biology as matter and energy do to physics or the atom or ion to chemistry. Berkeley, Hume and others have shown that the fundamental hypotheses of physical science are only of value so far as they successfully fulfill their purposes. We are justified, therefore, in seeking for a conception of life that will serve better as a working hypothesis than the physico-chemical one. As regards the charge that will be made "that the change of front" here urged "involves the giving up of all real attempt at scientific explanation in biology," he says that, leaving aside the philosophical question involved, the first requisite of a working hypothesis is that it should work, and he has tried to point out that the physico-chemical theory of life has not worked in the past, and it is his belief that it never can work. "As soon as we pass beyond the most superficial details of physiological activity it becomes unsatisfactory, and it breaks down completely when applied to fundamental physiologic problems such as that of reproduction." It is perhaps significant in this connection that the opening address before the botanical section by its president, F. F. Blackman,[1] while devoted to the manifestations of the principles of chemical mechanics in plants, almost starts out with the statement that the question "whether there is not here some discontinuity in Nature; whether the play of molecular and atomic forces occurring outside the living organism can ever account for the whole of the complexity and correlation of chemical and physical interactions demonstrable within the living structure," is very far from being answered, and that in a scientific assembly no one will call for prophecies. This is very different from and, it appears to us, more scientific than the dogmatic assumptions of the identity of vital and physico-chemical processes or the condemnation of any contrary views as detrimental to scientific progress. The "specter" of vitalism, as Dubois-Reymond called it, is still before us and it seems at times a pretty healthy ghost.

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[1] Nature, October 1.

HOPEFUL PROGNOSIS.

"To those who see much of this (locomotor ataxia) and like diseases it is a patent fact that there is always a liability to suggestion which seems almost characteristic and inseparable from the condition of invalidism." This is one of the opening sentences in Dr. Hamilton's paper printed in this issue.[1] The powerful influence exerted by the mental state over the ordinary physiologic processes of the body is well known. Fear may dry up the saliva, check the flow of the digestive juices, paralyze the sphincters and cause failure of the heart's action. Worry retards or perverts the processes of digestion and assimilation, inhibiting digestive secretions and even reversing peristaltic action. On the other hand, appetizing sights and odors induce a mental state that stimulates the digestive juices. Digestion is promoted by cheerfulness and placidity. It is alleged that death has occurred from a determination to die and from a (unfounded) belief that it was inevitable, in conditions in which no adequate cause of death was discoverable, either clinically or at postmortem examination. It is well known that in a certain percentage of cases spontaneous recovery, or at least recession, occurs, not only in locomotor ataxia but in tuberculosis, asthma and other diseases ordinarily regarded as incurable. Fear undoubtedly exercises a depressing influence, and, *per contra*, hope and encouragement stimulate and refresh. There is more than imagination in the often heard remark, "It does me good even to see the doctor; his presence brings confidence and hope." Contrariwise, the depressing effect of an over grave demeanor, and especially of a grave prognosis uttered in a patient's hearing, or even in his sight, can hardly be overestimated in its effect on his natural defensive forces, which ought to be keyed by the physician up to concert pitch. The moral is that an unfavorable prognosis should be given only with extreme caution, and then seldom absolutely, but accompanied with the encouragement that even the most forlorn hopes have at times succeeded. The patient should always be given the benefit of all hope and encouragement that is possible. If a hopeless prognosis is felt to be inevitable it should be given usually to the friends rather than to the patient. The failure to observe this admirable caution leads to two serious evils. First, it undoubtedly, in many cases, proves the final straw that breaks down the struggle for recovery. Second, the prognosis sometimes misses after all; and then if the patient falls into the hands of some irregular practitioner, faith healer or whatnot—who, whatever else he does, is sure to make the most of this element in treatment — the result may be another vaunted case of "recovery from a fatal disease after all the doctors have given him up."

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[1] Page 1915.

Medical News

CALIFORNIA.

County Society Investigates Use of Proprietaries.—The San Joaquin County Medical Society has sent a circular letter to its members announcing the appointment of a special committee to look into the abuses arising from the use of proprietary medicines. The results on the physicians *prescribing* such preparations are summarized as follows:

1. The physician becomes lazy as far as prescribing National Formulary preparations is concerned.
2. He compels the druggist to load his shelves with a lot of medicines easily compounded by any intelligent pharmacist.
3. The druggist, having these preparations on his shelves, is tempted to prescribe for many people who would otherwise consult a physician.
4. Any intelligent person, reading the prescription which the doctor writes before presenting it to the druggist, becomes familiar with the name of the preparation and thereafter buys it in the original package.
5. The doctor, in his efforts to dispose of these preparations, becomes an agent for proprietary medicine concerns.

This subject was taken up with a number of pharmacists in San Joaquin County, who stated that they were anxious to assist the physicians in this movement so as to eliminate a large number of proprietary preparations which they were compelled to carry. A sheet containing twenty questions was sent to each member of the society. Some of these questions are:.

Can you with your present knowledge of pharmacy write a prescription containing anything you desire? If so, why don't you?

When you prescribe proprietary preparations, do you remember all the ingredients they contain?

Is it not the physician's fault that proprietary remedies are kept in stock in all drug stores?

Does not a physician's knowledge of therapeutics become less after using proprietary medicines for ten or twenty years?

Do you honestly believe that you cure more patients by using proprietary medicines than by using separate drugs? Why do you use them?

A summary of the answers received in reply to these questions would certainly be interesting.

ILLINOIS.

Medicine Man Fined.—H. Darwin McIlrath, president of a medicine company in Chicago, charged with practicing medicine without a license and prosecuted by the state board of health, is said to have been found guilty November 16 and fined $100.

Subnormal Children to Be Segregated.—Plans announced by the president of the Board of Education of Chicago are to the effect that tubercular and subnormal children in the public schools of Chicago are to be segregated and provided with a special mental and physical training institute to be founded on a 240-acre tract of land in Riverside. Arrangements are also being made to provide a substitute for the present John Worthy School for delinquent children on the same tract of land.

Chicago.

Deaths of the Week.—For the week ended November 28, 520 deaths were reported to the Department of Health, 76 fewer than for the preceding week and 18 in excess of the corresponding week of last year. Consumption caused 63 deaths; pneumonia, 61; heart diseases, 49; acute intestinal diseases, 42; violence (including suicide), 34; scarlet fever, 13; diphtheria, 9; typhoid fever, 8; measles, 4, and whooping cough, one death.

Contagious Diseases.—There were 968 cases of contagious diseases reported to the department during the week ended November 28, distributed as follows: Scarlet fever, 255; diphtheria, 222; tuberculosis, 189; chickenpox, 90; typhoid fever, 44; pneumonia, 31; whooping cough, 18, and minor contagious diseases, 25. Compared with the preceding week, the cases of diphtheria increased 7, but the deaths from this cause decreased 14. There were 43 more cases of scarlet fever, but the number of deaths remained the same.

MAINE.

Medical School Opens.—The Medical School of Maine, Brunswick, reopened after its summer vacation, October 23.

Personal.—Dr. Charles E. Williams, Auburn, was seriously injured by the overturning of his automobile in Leeds, October 9, while on his way to his summer camp on Androscoggin Lake. Mrs. Williams died from the injuries received.——Dr. William P. Hutchins, Rumford, was held up and robbed of $250 recently.——Dr. Eben J. Marston, Bath, while making a professional call, was attacked and bitten in the face by a collie dog. The wounds were cauterized at once and no ill effects are anticipated.

Embargo on New Brunswick Immigration.—The secretary of the State Board of Health has received information from the inspector of the board near Madawaska that there are 125 cases of smallpox in the town of Edmonston, N. B. Letters of warning have been sent to local boards of health in the western part of the state, ordering that until further notice no person shall go from the province of New Brunswick into Maine, unless he can prove to the satisfaction of the local board of health that he has been vaccinated and that he has not been exposed to smallpox.

Society Meetings.—The fifty-fifth annual meeting of Penobscot County Medical Society was held November 17, in Bangor. The following officers were elected: President, Dr. Harry Butler; vice-presidents, Drs. J. Albert Lethiecq, Brewer, and Herbert T. Clough, Bangor; secretary, Dr. John B. Thompson, Bangor, and treasurer, Dr. Harold H. Crane, Bangor.——At the annual meeting of Androscoggin County Medical Association, resolutions were adopted urging the establishment by the government of a national department of public health.——At the annual meeting of the Westbrook Medical Club, the following officers were elected: President, Dr. Alphonso N. Witham; vice-president, Dr. Adjutor Coutourier; and secretary-treasurer, Dr. Louis L. Hills.——At the annual meeting of the Cumberland County Medical Society, held in Portland, the following officers were elected: President, Dr. Owen P. Smith; vice-president, Dr. Herbert F. Twitchell; secretary, Dr. Harold A. Pingree; treasurer, Dr. Edwin W. Gehring; and censors, Drs. Stanley P. Warren, Charles W. Foster and Frank H. Jordan, all of Portland.

MARYLAND.

Medical Club Organized.—An association of physicians of Washington County, known as the Medical Club, was organized at Hagerstown, November 25, the object being the promotion of scientific progress and good fellowship.

Personal.—Dr. W. Frank Hines, superintendent of state immigration, has moved from Chestertown to Baltimore.——Dr. R. Owens, mayor of Hyattsville, and treasurer of the Maryland Agricultural College, is under treatment at Johns Hopkins Hospital.

State Under Quarantine.—The State of Maryland has been placed under quarantine by the Secretary of Agriculture on account of an epidemic of foot-and-mouth disease among cattle at Lineboro. The infection is said to have been introduced by cattle sent from Buffalo.

Baltimore.

Gift to Dispensary.—An anonymous benefactor has given $15,000 to build an addition to the Phipps Dispensary of Johns Hopkins Hospital. This will practically double the capacity of the institution.

Isolation Hospital Nearing Completion.—Sydenham Hospital for Infectious Diseases is almost completed and will be opened January 1. Dr. W. B. Morrill of the Children's Hospital, Detroit, has been appointed physician in charge, and began his duties December 1.

Eminent Scientist Dies.—Prof. William Keith Brooks, a member of the faculty of Johns Hopkins University since its foundation, died in Baltimore, November 12, aged 60. He was distinguished as a biologist and was known as the "Father of the Oyster Culture."

Portrait Presented.—At the meeting of Baltimore Medical Society, December 1, the subject of "Proprietary Medicines" was discussed, and a portrait of the late Dr. George J. Preston was presented to the Medical and Chirurgical Faculty of Maryland by his friend, Dr. Harry Friedenwald.

City Alms House Condemned.—The grand jury, in its report, characterizes the condition of Bayview Asylum, the city alms house, as "frightful," recommends an appropriation for the erection of a building for hospital purposes only, and that arrangements be made with the state whereby the hopelessly insane may be cared for in the state institutions.

Personal.—Dr. Albert H. Carroll has returned from Brazil.——Dr. Thomas McC. Anderson sailed for Bremen, November 11.——Dr. Charles G. Hill has been elected president of the North Carolina Society of Maryland.——Dr. Roland B. Whitridge has returned from Europe.——Dr. Gladys R. Henry, the only woman resident physician at Johns Hopkins Hospital, was operated on for appendicitis, November 17.——Dr. Theodore Cooke, Jr., was elected president of the Association of Prison Physicians and Surgeons at Richmond, November 18.——Dr. Hugh H. Young, Johns Hopkins Hospital, while returning from a hunting expedition, fell and fractured his left arm——Dr. Owen C. Smith, professor of pharmacy in Baltimore Medical College, had his left eye enucleated November 23, as the result of an injury received while hunting six days before.

MICHIGAN.

Society Meetings.—At the annual meeting of Eaton County Medical Society, held in Charlotte, October 29, Dr. Arthur R. Stealy, Charlotte, was elected president; Dr. Wallace Newark, Charlotte, vice-president; Dr. Arthur H. Burleson, Olivet, secretary-treasurer; Dr. Philip H. Quick, Olivet, delegate to the state society; and Dr. Charles A. Stinson, Eaton Rapids, alternate. At the annual meeting of Ingham County Medical Society, held in Lansing November 12, Dr. Oscar H. Bruegel, Agricultural College, was elected president, and Dr. Charles H. Brucker, Lansing, vice-president, and Dr. Samuel Osborn, Lansing, was re-elected secretary-treasurer.——The Detroit Society of Neurology and Psychiatry was organized at the Detroit Club, November 19, with thirty charter members. The society is to meet four times a year and devote its energies to the study of neurologic and psychiatric problems. The following officers were elected: President, Dr. Colonel B. Burr, Flint; vice-president, Dr. David Inglis, Detroit, and secretary-treasurer, Dr. Charles W. Hitchcock, Detroit, and these officers, with Drs. Albert M. Barrett, Ann Arbor, and Edmund A. Christian, Pontiac, form the council.

MISSOURI.

Ask a Quarter Million.—The Hospital and Health Board, Kansas City, at a meeting November 18, adopted a recommendation to the council to submit a proposition to vote bonds to the amount of $250.000 for an incineration plant and $20,000 for a municipal tuberculosis sanatorium at Leeds.

Convicted and Fined.—H. M. Blumenthal, a traveling eye specialist, who has been fitting glasses, treating eyes, etc., is said to have been fined $100 at Nevada, Mo., for violating the statutes governing the practice of medicine without a license. Other cases against this individual are likely to be pushed as the medical profession of Nevada is determined to break up the illegal practice of medicine in that place.

County Medical Society Elects.—Ray County Medical Association held its annual meeting in Richmond, October 31, and elected the following officers: Dr. Elmer T. McGaugh, Richmond, president; Dr. Robert Sevier, Richmond, vice-president; Dr. Herman S. Majors, Hardin, secretary; Dr. Edward F. Higdon, Richmond, treasurer; Drs. Emmet W. Rentfro, Rayville; George W. Joiner, Knoxville, and James E. Ball, Millville, censors; Dr. Herman S. Majors, delegate to the state medical society, and Dr. James W. Smith, Richmond, alternate.

St. Louis.

Add to Consulting Staff.—At the last meeting of the consulting staff of St. Louis Maternity Hospital, the following additions were made: Dr. William W. Graves, neurologist; and Dr. Abram C. Leggatt, surgeon.

Medical Aid in Schools.—Emergency cabinets are being placed in the public schools in St. Louis under the auspices of Dr. James Stuart, supervisor of schools, to enable the superintendents to render first aid in emergencies.

Meningitis Serum.—A supply of Flexner serum has been placed in the hands of Dr. Harris, city bacteriologist, and Dr. McConnell, pathologist of the Skin and Cancer Hospital, who will distribute it to physicians requiring it for use in cases of meningitis.

Object to Cancer Hospital.—Residents of the neighborhood of Forest Park Boulevard object to the new Barnard Free Skin and Cancer Hospital on that thoroughfare, and threaten to resort to law. The land for the building and $100,000 for the endowment of the institution were donated by Mr. George T. Barnard.

Free Beds in Hospital.—The board of directors of the St. Louis Protestant Hospital has recently determined to open the entire institution wards and rooms to patients who require special treatment but who are unable to pay both hospital and physicians' fees. Such patients will be admitted only on written recommendation of a physician, and will receive medical and surgical treatment in the institution free of charge.

NEW HAMPSHIRE.

Anniversary Reception.—The Nashua Medical Association, on October 16, gave a reception to Dr. and Mrs. Charles B. Hammond, in honor of the twenty-fifth anniversary of their marriage. Dr. Ella B. Atherton, in behalf of the association, presented Dr. and Mrs. Hammond with a silver candelabrum.

Society Meetings.—At the annual meeting of the Rockingham County Medical Association, held in Portsmouth November 12, the following officers were elected: President, Dr. Abram W. Mitchell, Epping; vice-president, Dr. William O. Junkins, Portsmouth; secretary, Dr. Walter Tuttle, Exeter; treasurer, Dr. Alice M. Chesley, Exeter; delegates to the state society, Drs. John W. Parsons, Portsmouth, and George H. Guptill, Raymond; and censors, Drs. William H. Nute, Exeter, and Fred S. Towle, Portsmouth.——At the centennial meeting of Stratford County Medical Society, held in Dover October 29, Dr. Lewis W. Flanders, Dover, was elected president; Dr. Thomas J. Dougherty, Somersworth, vice-president; Dr. Harry O. Chesley, Dover, secretary; Dr. A. Noel Smith, Dover, treasurer; Dr. Micah B. Sullivan, Dover, auditor: Dr. George P. Morgan, Dover, censor; and Dr. Charles C. Rogers, Farmington, delegate to the state society.

NEW JERSEY.

Prevention of River Pollution.—The municipalities of Camden and Riverton have received notice from the State Board of Health that they must stop the practice of discharging crude sewage into the Delaware River, and that before Sept. 1, 1913, they must install sewage disposal plants and have them in full operation.

October Vital Statistics.—During the month ended October 15, 2,904 deaths were reported to the Bureau of Vital Statistics. Of these, 786 were of infants under 1 year, 261 were of children from 1 to 5 years, and 782 of individuals 60 years old and over. Among the principal death causes were: Infantile diarrhea, 367; diseases of the nervous system, 351; diseases of the circulatory system, 307; tuberculosis, 298; nephritis, 194; cancer, 144; pneumonia, 125; diphtheria and typhoid fever, each 34; cerebrospinal meningitis, 24; whooping cough, 21; scarlet fever, 18; and measles, 1.

Personal.—Dr. Paul N. Litchfield, Camden, has been elected coroner of Camden County, vice Dr. Joel W. Fithian.——By the will of Mr. Walter Ammon, who was shot and killed in Jersey City recently, one-third of his interest in the Ammon Butter and Egg Company were devised to Dr. John J. Baumann, Mr. Ammon's physician and most intimate friend.——Dr. J. Watson Martindale, Camden, was thrown from his carriage, November 20, and sustained a fracture of the scapula.——Dr. William K. Newton has been elected president, Dr. George E. Tuers, vice-president; Dr. Joseph A. Maclay, secretary, and Dr. Archibald F. Anderson, treasurer of the medical board of Paterson General Hospital.——Dr. P. DuBois, Bunting, was elected president; Dr. Frederick H. Pierson, vice-president; Dr. Russel A. Shirrefs, secretary, and Dr. John H. P. Conover, treasurer, of the Medical Society of the Elizabeth General Hospital and Dispensary, at the fifteenth annual election.

NEW YORK.

Mortality Among Bottle-Fed Babies.—The current bulletin of the State Health Department shows that during 1907 there were 37,370 deaths of infants under 2 years of age in the state. Investigators place the proportion of deaths between bottle-fed and breast-fed babies as 25 to 1, and this would give 8,844 deaths from this cause among bottle-fed babies last year, a greater number than was claimed by all other infectious and contagious diseases, excepting tuberculosis, combined.

Election.—At the one hundred and third annual meeting of the Medical Society of the County of New York, held November 23, the following officers were elected: President, Dr. H. Seymour Houghton; vice-presidents, Drs. John E. Weeks and Joseph Brettauer; secretary, Dr. John Van Doren Young; assistant secretary, Dr. J. Milton Mabbott; treasurer, Dr. Charles H. Richardson; censors, Drs. J. Riddle Goffe, Henry M. Painter, Charles G. Kerley and Albert W. Ferris; delegates to the Medical Society of the State of New York. Drs. H. Seymour Houghton, Floyd M. Crandall, W. Bryant Hoag, E. Eliot Harris, Henry M. Silver, J. Milton Mabbott, Abraham Jacobi, Michael C. O'Brien, Egbert Le Fevre, Frederic R. Sturgis, Arnold Knapp, Frank S. Fielder, Walter L. Carr, Charles H. Richardson, John A. Bodine, Edward M. Foote and Edmund P. Fowler.

Meeting of Medical Examiners.—The State Board of Medical Examiners, at its meeting November 15, elected Dr. William Warren Potter, Buffalo, president, and Dr. William S. Searle, Brooklyn, vice-president. It placed itself on record as being in favor of the six-year combined baccalaureate and medical course. Arrangements were made for the preparation of a medical syllabus in keeping with the suggestion of prominent medical educators, and a committee, of which Dr. Lee H. Smith, Buffalo, is chairman, was continued. The assignments to the various subheads of medicine were voted as follows: Physiology, Dr. R. H. Williams, Rochester; anatomy, Dr. William S. Ely, Rochester; hygiene and sanitation, Dr. Eugene Beach, Gloversville; chemistry, Dr. Floyd S. Farnsworth, Plattsburg; surgery, Dr. Floyd M. Crandall, New York; obstetrics and gynecology, Dr. William W. Potter, Buffalo; bacteriology, Dr. Frank W. Adriance, Elmira; pathology, Dr. Lee H. Smith, Buffalo; and diagnosis, Dr. William S. Searle, Brooklyn. The following were elected members of the question committee: Drs. Smith, Potter, Adriance and Williams.

New York City.

Death of Dr. McCosh.—Dr. Andrew J. McCosh, who was injured November 28, in a runaway accident, suffering a fracture of the base of the skull and other injuries, died in the Presbyterian Hospital, December 2.

Tuberculosis Exhibit.—The international tuberculosis exhibit will be open free to the public for six weeks at the American Museum of Natural History, Seventy-ninth Street and Columbus Avenue, beginning November 30.

Harvey Society Lecture.—The fifth lecture of the Harvey Society by Drs. M. J. Rosenau and John F. Anderson, P. H. and M.-H. Service, on December 5, at the New York Academy of Medicine, is on the subject of "Anaphylaxis."

Campaign Against Tuberculosis.—Under the auspices of the section of public health of the New York Academy of Medicine, a special meeting will be held December 11, at which Prof. Walter F. Wilcox of Cornell University will deliver an address on "The Need of New York State for Better Vital Statistics in Its Campaign Against Tuberculosis."

Joint Meeting.—On December 9, joint meeting of the New York Pathological Society and the New York Surgical Society will be held, at which a paper by Drs. John Howland and A. N. Richards will be presented on "Experimental Study of Pathology and Metabolism in Delayed Chloroform Poisoning." The subject will also be discussed from the clinical standpoint.

Shall Presbyterian Hospital Move?—The Presbyterian Hospital is fast outgrowing its present accommodations at Seventy-first Street and Park Avenue, and, as more hospital facilities are needed in the tenement district to the east, real estate experts are urging the trustees to sell their present property and to buy a new site in the forenamed district while real estate is still comparatively cheap.

New Hospital Opened.—The Mount Moriah Hospital, a nonsectarian institution on the East Side, has just been opened. Edward Lauterbach, who made the opening address, deplored the fact that the hospital charter had not been granted by the State Board of Charities, and has pledged himself to endeavor to obtain a charter from this organization. The money for this hospital was raised by private subscription, the largest contribution being limited to $250. There is a guarantee fund to meet all expenses for five years. There is an equipment of 80 beds, an operating room, and a children's ward.

NORTH CAROLINA.

Pasteur Institute Report.—On July 1, the State Board of Health established a Pasteur institute in Raleigh. During the first four months of its existence 34 patients were treated, all but eight of whom were free patients.

Hospital Notes.—The Gaston County Hospital, Gastonia, was formally opened November 12.——On October 30 and 31, tag days were held in High Point for the benefit of the Junior Order Hospital of that city.——The floral bazar held by the ladies of Charlotte the first week in November netted a little over $500 to St. Peter's Hospital in that city.

OHIO.

Hospital Notes.—St. Clair Hospital, Cleveland, has purchased 90 feet of land adjoining its present location for $8,000 and proposes to erect a new building on this site.——The new Jefferson Hospital, Toledo, was formally opened, November 11, with a free clinic and a banquet to the staff.

District Society Meetings.—The fifth annual meeting of the First District Medical Society was held in Cincinnati November 16. Dr. Hugh J. Death, Franklin, was elected president; Dr. John C. Larkin, Hillsboro, vice-president, and Dr. John P. Miller, Cincinnati, secretary.——At the annual meeting of the Second District Medical Society, held in Troy November 12, Dr. J. Emerson Monger, Gettysburg, was elected president; Dr. Ralph A. Bunn, Dayton, vice-president, and Dr. Asa C. Messenger, Xenia, secretary (re-elected).——The Ninth District Medical Society held its sixth annual meeting in Toledo November 10 and elected Dr. Peter J. Kline, Portsmouth, president; Dr. Jehu Eakins, Gallipolis, censor; Dr. Joseph S. Rardin. Portsmouth. secretary. and Dr. John E. Sylvester, Wellston, councillor, the two latter being re-elected.

PENNSYLVANIA.

Loss by Fire.—The two-story annex of the Idlewood Sanatorium in Greentree Borough was destroyed by fire November 9. The loss is estimated at $10,000.——The new Tuberculosis Camp for Women at Marshalsea was burned to the ground November 5, involving a loss of about $6,000, partially covered by insurance.

New State Institution.—The Eastern Pennsylvania State Institution for the Feeble-Minded and Epileptics, Spring City, was formally opened November 16. Six buildings are already completed at a cost of $350,000. For the time being the institution will admit only men, but when entirely completed, 23 buildings will be erected at a total contemplated cost of more than $1,000,000, making this one of the best equipped institutions of its kind in the world.

Officers Elected.—At the annual meeting of the Somerset County Medical Society held at the Markleton Sanatorium, the following officers were elected for the coming year: President, Dr. Charles P. Large, Meyersdale; vice-president, Dr. Richard T. Pollard, Garrett; secretary, Dr. Bruce Lichty, Meyersdale; treasurer, Dr. Walter S. Mountain, Confluence; reporter, Dr. Henry C. McKinley, Meyersdale; county censors, Drs. Henry Wilson, Somerset, Albert M. Lichty, Elk Lick, and Ross J. Hemminger, Meyersdale; and district censor, Dr. Henry I. Marsden, Somerset.

The Cattle Plague.—The epidemic of foot and mouth disease continues to spread throughout the state, and 12 counties are reported to have been placed under federal and state quarantine. The counties quarantined are: Montour, Northumberland, Juniata, Union, Snider, Lehigh, Lancaster, Berks, Delaware, Montgomery, Crawford and Lebanon. More than 1,000 cattle have been killed in an effort to prevent the spread of the disease. The care of the epidemic is under the supervision of Dr. Leonard Pearson and Dr. Mohler of the state and government service. The disease has been reported to have been communicated to the adjoining states, New York and New Jersey.

Philadelphia.

Anonymous Gift.—The Hospital of the Woman's Medical College of Pennsylvania has recently received an anonymous gift of $500 for its endowment fund.

Beneficiaries of Charity Ball.—The receipts of the twenty-ninth annual charity ball, to be held in the Academy of Music, January 27 next, will go to the following beneficiaries: Children's Orthopedic Ward of the University Hospital, Children's Ward of the Jefferson Hospital, Kensington Hospital for Women and St. Christopher's Hospital.

Society Meeting.—At the annual meeting of the Pathological Society of Philadelphia, held October 22, the following officers were elected: President, Dr. Joseph McFarland; vice-presidents, Drs. David L. Edsall, Reisman, Kelly and Smith; secretary, Dr. Ralph S. Lavenson; treasurer, Dr. Courtland Y. White; recorder, Dr. Frederick H. Klaer; and curator, Dr. E. H. Goodman.

Campaign for Health.—A public meeting of the Philadelphia Society for the Prevention of Diseases was held in the hall of the College of Physicians November 6. The officers of the society are Dr. Edgar F. Smith, president; Dr. William W. Keen, Charles C. Harrison, LL.D., and Col. R. Dale Benson, vice-presidents; Dr. Robert N. Willson, secretary; and Dr. Jay F. Schamberg, treasurer.

Health Report.—The total number of deaths reported to the Health Bureau for the week ended November 21 was 420. This is a decrease of 33 from the number reported in the corresponding week of last year. The principal causes of death were: Typhoid fever, 3; pertussis, 2; diphtheria, 6; consumption, 59; cancer, 18; diabetes, 3; apoplexy, 11; paralysis, 6; heart disease, 53; acute respiratory disease, 51; enteritis, 23; hepatic cirrhosis, 3; appendicitis, 5; nephritis, 44; premature birth, 12; congenital debility, 7; senility, 3; suicide, 4; accidents, 15, and marasmus, 7. There were 201 cases of contagious diseases reported, with 12 deaths, as compared with 215 cases and 32 deaths reported in the preceding week.

Personal.—Dr. Robert-Simon, Paris, delivered an illustrated lecture on "The Subcutaneous Injection of Sea-Water in the Treatment of Disease" in the Polyclinic Hospital November 20.——Dr. Joseph J. Walsh, professor of the history of medicine at Fordham University, delivered an address on "Old Time Medicine and Medical Education" at the regular monthly meeting of the College of Physicians, November 30.——Dr. George W. Crile, Cleveland, Ohio, has been selected to deliver the annual Mutter lecture for the College of Physicians for 1908. He will discuss "Surgical Anemia and Resuscitation." The lecture will be delivered December 11 in the Mutter Museum of the college.——Dr. Charles A. E. Codman has been appointed chairman of a committee to investigate the subject of a business bureau for the county medical society.——Dr. B. Franklin Stahl has been appointed medical director of St. Agnes' Hospital.——Dr. W. Howard Lyle has been appointed assistant medical inspector, vice Dr. Morris H. Tindall, resigned.——Dr. Amy J. Rule, Philadelphia, has been appointed assistant physician in the State Hospital for the Insane, Norristown.

City's Milk Supply.—A symposium on "The Milk Question" in Horticultural Hall No- was conducted by the Civic Club in Horticultural Hall No- vember 17. The meeting was addressed by Dr. Joseph S. Neff, director of the Department of Health of this city; Dr. George W. Goler, director of health of Rochester, N. Y., and Drs. Joseph S. Evans, S. McClintock Hamil and Lawrence F. Flick. Dr. Neff, who presided, stated that 5.000 infants died in this city yearly as the result of the milk being placed in insanitary storage rooms. Dr. Neff favored a law requiring milk dealers to be licensed and thus place them under direct and continuous supervision of the Health Bureau. Small dealers, he said, were responsible for most mischief, because of their inadequate facilities for keeping the milk sanitary.

Dr. Goler gave a description of the combat in Rochester for uncontaminated milk. His lecture was illustrated with stereopticon views, showing the general insanitary housing and caring for cattle. He said that the death rate in Rochester had decreased since the fight for clean barn-yards, well-kept stables and sanitary dairies was instituted. He advocated laws that would give a state wide regulation over the preparation of milk for the market. Dr. Evans laid stress on inspection at the source of supply and of the rigid inspection of the facilities possessed by the city dealers. Dr. Hamill spoke on "Milk as a Food for Children," and Dr. Flick discussed "Milk as an Economical Food" and the part it plays in the treatment of tuberculosis patients.

GENERAL NEWS AND COMMENT.

Northwestern Medical Association.—A call has been issued to the physicians of the northwest to meet in Seattle in July next to organize an association comprising all the North Pacific Coast to include Washington, Oregon, Idaho and British Columbia. The meeting is to continue four days, and the arrangements are to be left in the hands of the committee from the State Medical Association of Washington.

Health of the Navy.—The annual report, made by the surgeon general, U. S. Navy, chief of the bureau of medicine and surgery, for the fiscal year 1908, to the Secretary of the Navy, shows a gratfying improvement in the general health as compared with last year, the respective morbidity per 1,000 being 691.40 and 787.23. The shortage of medical officers is still a source of embarrassment and occasions the overburdening of individual officers at certain stations to such an extent as to jeopardize efficiency. The surgeon general notes the services rendered by the newly appointed acting assistant surgeons. The advantage of this grade has been so pronounced that a probationary service in this capacity is being seriously considered as a requirement for candidacy in the medical corps. The navy medical school also represents a most potent influence for good. The need for a larger and more effective hospital corps and the raising of professional requirements in the case of hospital stewards are emphasized. The substantial improvement in the health of the naval forces afloat is evidence that hygienic principles and sanitary dictates are being more carefully observed. The ten principal causes of disability noted for the year were venereal diseases, injuries, tonsilitis, epidemic catarrh, malaria, bronchitis, rheumatism, gastrointestinal diseases, the exanthemata, and other infectious diseases. The surgeon general notes with regret the failure of congress to enact measures authorizing the employment of skilled dentists for service in the Navy. The report from one ship alone for 1907 includes 1,454 operations for almost every conceivable period of dental disorder. The dental corps bill contemplates thirty dental surgeons, fifteen of whom would probably be employed at sea and fifteen at various shore stations. The enactment of authority for the establishment of a corps of female nurses is a source of gratification to the Navy. It is believed this provision greatly enhances the possibility of increased efficiency in the medical department.

CANADA.

Corner-Stone of New Consumption Sanatorium Laid.—On November 11, the Lieutenant-Governor of British Columbia laid the corner-stone of a new sanatorium for incipient cases of tuberculosis at Tranquille.

Ontario Health Statistics for October.—There were 500 cases of typhoid fever in Ontario in the month of October, with 126 deaths, as compared with 50 deaths for the same month of 1907. There were 50 cases of smallpox. There are fifteen centers for the latter. The total number of deaths from all causes was 2,328, a death rate of 13.8 in the thousand.

Patent Medicine Laws.—It has been decided by the Dominion government that the patent medicine act of last parliament will come into force April 1, 1909. After that date any preparation which contains any drug or drugs dangerous to the public will have to be approved by experts of the department of inland revenue or bear a printed statement on the outside of each package that there is a deadly drug in the preparation, or else give the name of the drug.

Ontario Medical Council.—The Ontario Medical Council met in Toronto in special session during the week ended November 21. The discipline committee made a report on the case of two practitioners, but no action was taken thereon. The Council approved of interprovincial registration with all the colleges in the various provinces having a standard of education equivalent to that of the Ontario Medical Council. The Council did not favor reciprocity with Great Britain. The education committee recommended that the matriculation standard be raised 25 per cent.

Hospital News.—Kincardine, Ont., is to have a new hospital at a cost of $25,000.——During the past four years the citizens of Vancouver, B. C., have placed at the disposal of their general hospital board of management $400,000. This has so stimulated Victoria that it will place the matter for the extension of the Royal Jubilee Hospital of that city before the citizens by by-law shortly. This hospital treated 172 patients in October.——The Western Hospital, Toronto, has recently received a donation of $25,000 from a citizen of Toronto.——The ratepayers of Toronto will vote on the proposed grant of $200,000, divided equally between the General, St. Michael's, Grace, and the Western hospitals, at the coming municipal elections January 1.——The St. Catharines (Ont.) Hospital treated 516 patients in its last fiscal year. A new building is to be erected shortly, for which there is already in hand nearly $10,000.

Tuberculosis Exhibition in Montreal.—The formal opening of the exhibition of the Montreal Tuberculosis League took place November 18, Earl Grey, the Governor-General, presiding. The exhibition is the joint work of the English and French-speaking physicians of the city. Each year there are in Montreal 1,000 deaths from tuberculosis; in the province of Quebec about 3,000; in Canada, about 13,000. The annual loss to the Dominion is thus estimated at $39,000,000. Dr. J. George Adami, chairman of the Exhibition Committee and Dr. E. P. Lachapelle, chairman of the Executive Committee of the Montreal League invited the Governor-General to open the exhibition. The exhibition is largely due to the industry of Dr. D. Fraser Gurd; and the exhibits principally come from the board of health of Quebec, from the health department of Ontario, from the health departments of New York, Rhode Island, and Massachusetts, from the Irish Tuberculosis Association, and from the Dental Association of Quebec.

Personal.—Dr. L. C. Prevost, Ottawa, is accompanying Sir Wilfred Laurier, Canada's Prime Minister, on a trip to the Southern States.——Dr. C. D. Parfitt, for six years physician in charge of the Muskoka Free Hospital for Consumptives, Gravenhurst, Ont., and for the last seven months resident consultant to that institution and the Muskoka Cottage Sanatorium, has resigned.——Dr. Gordon has severed his connection with the Muskoka Cottage Sanatorium.——Dr. Albert H. Calfield, Toronto, has been appointed pathologist to the Muskoka Cottage Sanatorium.——Dr. W. S. Lemon, Toronto, has been added to the resident staff of the institution.——Dr. George D. Porter, Toronto, has been appointed provincial secretary of the Canadian Association for the Prevention of Tuberculosis.——Dr. Ernest Jones, Toronto, has been appointed pathologist and neurologist to the Provincial Hospital for the Insane, vice Dr. J. G. Fitzgerald, who has resigned to accept a position in Boston, Mass.——Dr. W. T. Wilson, assistant superintendent of the Toronto Provincial Hospital for the Insane, has been made superintendent of a similar institution at Cobourg.——Dr. Edward J. Stubbs, Stratford, has started on a trip around the world, stopping en route at Rochester, Minn.——Dr. Francis G. E. Pearson, medical health officer of Brantford, is seriously ill with septicemia due to an operation wound.——Dr. C. K. Clarke has been appointed dean of the medical faculty of the Toronto University, vice Dr. Richard A. Reeve, resigned.

LONDON LETTER.

(From Our Regular Correspondent.)

LONDON, Nov. 21, 1908.

Sir Jonathan Hutchinson.

Among the birthday honors conferred by the King is a knighthood for Mr. Jonathan Hutchinson in recognition of his distinguished services to medical science. The honor came as a surprise to the profession, for it was well known that the reason Mr. Hutchinson had not received any of the titles that have been conferred on lesser men was that he would not accept them. Forty years ago he refused the title that has now been conferred on him. As he is of Quaker origin his refusal no doubt was due to the distaste of that sect for such distinctions: possibly, also, his philosophical mind is above such things. He has now, however, owing to the wishes of his family, accepted a knighthood. The medical journals state that the conferring of this honor on him will be viewed by the profession with satisfaction: but the general feeling is rather one of surprise at the inadequacy of the distinction. To any one acquainted with Mr. Hutchinson's work nothing less than a peerage can seem an adequate recognition. One of the few great clinicians of all time, he ranks with Sydenham, Graves, Trousseau and Charcot, and in versatility he has surpassed even these. No other writer has made contributions of the first importance not only to general medicine and surgery, but such highly specialized subjects as dermatology and ophthalmology. Professor Osler has well described him as the only great generalized specialist which the profession has produced. With the minute knowledge of the specialist he has combined a broad and philosophic view of every subject, and has, in addition, made the various branches of medical science throw light on one another in a manner that has never been equaled.

Plague in Liverpool.

The fatal case of plague in Liverpool reported in the letter of November 7, has been followed by two others. The first victim was a man who worked on a coal barge. Now a man and his wife who occupied his cabin for the purpose of waiting on him have been attacked. Ever since the first case was found to be plague they have been kept under close observation. They were conveyed to the port sanitary hospital, where the man died, but his wife is recovering. The medical authorities have not yet determined how the disease originated. The barge was used for coaling vessels, chiefly coasters, in dock. It is supposed that the infection must have been brought from some other port. The names of the vessels coaled by the barge and the places from which they came have been communicated to the health authorities of the places. Close inspection of the barge has dispelled the idea that the disease was spread by a plague-carrying rat. Every precaution, including isolation of the patients and watching of all known contacts, has been taken. A large number of rats have been killed in the docks and examined in the municipal laboratory, but plague has not been found in any of them up to the present date.

Exemplary Damages from a "Face Specialist."

Catharine Lavin, a "face specialist," known to the public as Madame August, issues advertisements in which she professes to "rejuvenate the face," to remove smallpox marks, freckles, liver-spots, birth-marks, etc., by a "marvelous treatment." Attracted by the advertisement a woman went to her with three small-pox scars on the face. These Lavin treated with some preparation which turned the scars black and afterwards with plasters which caused the spots to coalesce into a spreading ulcer. An action for damages was brought against Lavin and she was mulcted in damages to the extent of $2,500.

Declining Marriagės and Large Decrease in the Infantile Mortality.

The quarterly returns issued by the Registrar-General show that during the three months ending September 30, 295,052 births and 146,239 deaths were registered in the United Kingdom, the natural increase of population, therefore, being 148,813. The births registered in England and Wales were in the proportion of 26.6 per 1,000 of the population, which was 1.6 below the mean rate of the preceding ten third quarters of the year. The deaths during the same period were in the proportion of 12.8 per 1,000, or 2.7 below the mean rate of the preceding ten third quarters. The deaths of infants under 1 year were in the proportion of 126 per 1,000 births as compared with an average of 175 in the ten preceding third quarters. The marriage rate for the quarter ending June 30 was only 16.7 per 1,000 as compared with an average of 17.1 recorded in the second quarters of the preceding ten years.

First Report of the Sleeping-Sickness Bureau.

The formation of a sleeping-sickness bureau in London for the collection and distribution of information on sleeping sickness was announced in a previous letter (The Journal, June 6, p. 1914). The bureau has issued the first number of its bulletin, which gives ample evidence that it will prove a valuable publication. The present number is entitled "The Chemotherapy of Trypanosomiasis," and it summarizes the various attempts to cure the disease in man and animals. The editor of the paper, Mr. A. G. Bagshawe, concludes that the employment of any one trypanocide by itself has ceased to be justifiable and that an alternation of such agents should be used. After one drug has been used for some time the trypanosomes become immune to it, but they can then be killed by the administration of some other drug. Certain experiments are described. An animal was infected with trypanosomes and treated with a trypanocide. The trypanosomes disappeared only to reappear in a few days. The same drug was again administered and the trypanosomes eliminated, but they reappeared sooner than before. The treatment was continued until the drug ceased to affect the trypanosomes and the animal died. When these trypanosomes were transferred to another animal of the same species the same drug was found from the first to be powerless. This principle was found capable of further extension. When the trypanosomes had been thus fortified in a mouse against the action of a drug, they were transferred through as many as twenty generations in rats and in every case it was found that the parasites had lost their immunity to that drug, but when they were re-transferred from the last of the series of rats to a mouse, the resistance to the drug at once became manifest. It seemed, therefore, that the individual animal played a part in the elimination of the parasites.

Tuberculous Milk in London.

During the past three months, of 92 samples of milk examined by the health department of the London County Council. 22—23.9 per cent.—proved to be tuberculous. Ten of the cows supplying the milk were found to be tuberculous and the owner undertook not to send any more milk to London from these cows, but the report does not state that he would not send it elsewhere—a procedure not impossible in the present chaotic state of the law!

Prevention of Malaria in Mauritius.

Prof. Ronald Ross was requested by the government to visit Mauritius and report on the prevention of malaria, which is very prevalent in that island. He has issued an important and interesting report on the subject, in which he recommends the following: 1. A periodical spleen census should be taken of the children. 2. In schools and on estates children with enlarged spleens should be treated with quinin. 3. Occasional house protection should be carried out. 4. Mosquito reduction where advisable should be attempted. The experience of Port Said, Klang, Port Sweetenham and Panama encourage the belief that the disease will be brought under control in this island.

Impure Soda Water.

In investigating a case of diphtheria, Dr. Collingridge, health officer of the City of London, found reason to suspect some soda water which had been purchased in a city shop. Bacteriologic examination revealed an enormous number of microbes containing cocci, sporing bacilli and large numbers of a small Gram-positive non-motile bacilli which in shape resembled diphtheroid microbes. There was no evidence that these were diphtheria bacilli, though they evidently belonged to that large class of "diphtheroid bacilli." These results showed that carbonic acid, even when under pressure, exercised little, if any, destructive action on the bacilli. A general inquiry into the purity of soda water was then made by Dr. Klein, the bacteriologist. He found that out of 36 samples, 27.7 per cent. were pure; 19.4 per cent. were fairly pure, and 52.7 per cent. were impure. Inspection of the factories showed that the source of the contamination was found usually in defects in the system of bottle washing and exposure of the water to risk of contamination in wooden tanks and absence or imperfection of coverings for the receptacles containing water. The manufacturers have now undertaken to carry out recommendations made by the health officer for securing purity of soda water. Regulations have been issued under which mineral water manufacturers must (1) obtain a certificate from the health officer of the district to the effect that their premises are in satisfactory condition; (2) they must have a bacteriologic analysis made of the water supply or when a public supply is used, a certificate of the authorities supplying the water; and (3) they must also have a bacteriologic analysis made of the finished goods. Other regulations include, in addition to those just mentioned, efficiency of filters, cleanliness of rings and stoppers, proper material for storage (wood is considered quite unsuitable), methods of bottling, washing, etc.

Critical Position of the Polyclinic.

The Medical Graduates College and Polyclinic is in a critical position. After a useful career of about ten years, it is found the membership has dropped from about 800 to 500. This is not a result of any falling off in efficiency of the institution, but is really due to the college's success, which has aroused in London an interest in postgraduate instruction. The hospitals generally have taken up postgraduate work, and no fewer than three of them—the West London, the Sea-men's Hospital, Greenwich and the North Eastern (Prince of Wales') Hospital are devoted entirely to it. These rival institutions have had the inevitable effect of withdrawing support from the Polyclinic, over which they have the great advantage of being hospitals. The Polyclinic has no beds; the patients shown there, though exemplifying some of the rarest forms of disease, consist entirely of those who are not too ill to be sent for consultation. The sum derived from the annual subscription ($5), with the fees from the tutorial classes, has never been sufficient to pay the expenses. The deficiency has been made good by voluntary increased subscriptions from a limited number of the members. Unless some new scheme can be devised there is great danger of this useful and unique institution coming to an end.

PARIS LETTER.

(From Our Regular Correspondent.)

PARIS, Nov. 19, 1908.

Conservative Treatment of Pelvic Affections.

One of our most celebrated surgeons, Dr. Richelot, has just made a communication to the Academy of Medicine on the abuse of surgery in gynecology, especially in the cases of "nervous arthritic patients," uninfected, without notable lesions, but affected with uterine congestion, dysmenorrhea, uterine catarrh, hemorrhages, etc. With such patients, hot water, employed in the form of vaginal injections and general and perigastric douches, gives excellent results, provided it is employed according to a rigorous system. It is not sufficient to make injections of two liters (two quarts) of water at 45 C.; it is necessary to insist on abundance of water, a high temperature, and regularity of injections. To obtain the best results the vaginal injection should consist of 80 to 100 liters (21 to 26 gallons) of water. This is the vaginal douche as given at the springs of Luxeuil. The general douche ought not to be reserved exclusively to neurologists; the gynecologists may also make advantageous use of it in localized affections of the true pelvis. For this purpose hot-water therapy requires, to be sure, special apparatus, but the difficulty in using—which is, after all, common to all physical agents—is no reason for underrating its value. The method has two principal indications: in uterine congestions, it renews the existence of those nervous arthritic patients whose pains, hemorrhages and dysmenorrhea have withstood everything; in pelvic infections, in which operation appears to be obligatory, but in which there are strong reasons for not operating, such as the youth of the woman or her desire to have children, hot-water therapy is capable of bringing about unexpected complete resolutions. And, even if the relief of pelvic congestion does not cause the disappearance of pains or the complete resolution of tumefactions of the adnexa and of pelvic exudates, it is still useful in diagnosis, to determine the true indications, proper procedure and to limit surgical intervention.

The French Red Cross.

The French Red Cross is made up of three societies for assistance to wounded soldiers, the Association of French Ladies, the Union of the Women of France, and the Society for Aid to Wounded Soldiers. The latter, which is the oldest of the three, having been founded in 1865, has now 55,000 members. It is now building a hospital-school where its members may perfect their practical education as nurses. The principal pavilion, which is the only building as yet completed, was turned over to the president of the society, Marquis de Vogüé, on November 14, by Professor Guyon, president of the medical commission and of the instruction of the Red Cross. Up to the present the ladies of the Red Cross have attended only the dispensary-schools, which taught them to make dressings but left them ignorant of the care to be given to wounded men in hospitals. The construction of the hospital cost 550.000 francs ($110,000) and was paid for by gifts and public subscriptions without drawing on the war fund of the society, which amounts to 6.000,000 francs ($1.200.000). Apart from the relief distributed to the wounded in the Crimean, Italian and Franco-Prussian wars and the colonial expeditions, the society has sent 1,233,447 francs ($246,689) in relief to foreign red cross societies, for the Russo-Turkish, Spanish-American, South African and Russo-Japanese wars.

In case of war, the society would be able to furnish nearly 3,000 nurses and 26 auxiliary field hospitals attached to the various corps of the army, each one containing 100 beds. In case of mobilization it could, moreover, put at the disposal of the Minister of War 538 auxiliary territorial hospitals, with a total of 20,602 beds. It also has 88 railway station infirmaries, in the most important stations of our various railway centers, the purpose of which is not merely to give medical and surgical care to the sick and wounded passing through the station, but to give temporary nourishment and care to those who are unable to continue their journey.

Election of Dr. Quénu to the Academy of Medicine.

Dr. Quénu, professor of operative medicine at the Paris Medical School and surgeon of the Cochin Hospital, has been elected titular member of the Academy of Medicine, in the section of surgical pathology, to fill the place of Professor Terrier, who died last April.

Museum of Hygiene.

Since 1890, there has existed in Paris a little museum of hygiene, containing among other things, the exhibits which figured in the Paris pavilion of hygiene at the exposition of 1900, and which have to do especially with the sanitation of dwellings, the emptying of latrines and sewers, etc. There is now a plan to complete and to install the collections so as to make of them a real model museum of hygiene and sanitation. It will comprise the twelve following sections: Air and light (composition, meteorology; lighting of the city; lighting, heating and ventilation of the house); water (composition and bacteriology; flowing waters of rivers and springs, ozonation; distribution, filters, private baths, etc.); food and clothing (composition of foods, nutritive value, adulteration, sterilization of milk; hygiene of clothing, impermeability, etc.); preventive hygiene (disinfection, measures against fire, materials of construction); hygiene of infancy (feeding of infants, gymnastics); establishments such as hospitals, asylums, soup-kitchens; hygiene of special establishments (arrangement, heating, etc., of barracks, prisons, schools, cheap houses); residues of life (cemeteries and cremation; household refuse; rain-water and slops, night soil; sewers; emptying of used waters); public conveyances (omnibuses and fiacres; neatness, ventilation, disinfection, cleaning, etc.); smoke; demography; library.

Declaration of Contagious Diseases.

Dr. Widal's recent report to the Academy of Medicine on epidemics, took up, among other questions, that of compulsory declaration of contagious diseases. The law of 1902 requires this declaration of the attendant physician; but the great majority of physicians consider the requirement inconsistent with the superior obligation of professional secrecy. This law being about to undergo revision, the Academy of Medicine has been invited to give advice in regard to modifications. Widal contends that the physician's obligation should be limited to making the diagnosis, leaving to the head of the family or to the landlord, if the patient has no family near him, the duty of making the declaration to the authorities. The Academy, however, finally adopted the proposition to make the physician and the head of the family jointly responsible for the declaration. Practitioners regret this decision, which practically restores the physician's complete responsibility, since he will be subject to prosecution if the head of the family neglects his duty, which will doubtless happen frequently.

Criminality and Alcoholism.

For several years, criminality has increased in truly disquieting proportions. The principal cause appears to be alcoholism. Below is an instructive table showing that, since the law on free traffic in liquors, the increase in the number of murders, suicides and cases of insanity has been almost parallel to the increase in the consumption of alcohol.

	1881.	1905.
Number of licenses..................	367.829	473.593
Hectoliters of alcohol manufactured...	1,822,000	2,609.000
Murders brought to justice............	182	274
Murders not brought to justice........	344	495
Suicides	6.741	8.932
Cases of insanity.....................	47,858	71,547

BERLIN LETTER.

(From Our Regular Correspondent.)

BERLIN, Nov. 14, 1908.

The Temperance Movement.

A few weeks ago the German League Against the Misuse of Spirituous Beverages celebrated its silver jubilee. The conditions now are undoubtedly more favorable than when the society was founded. The combined efforts of physicians, national economists, public officials, etc., have resulted in a marked reduction in the consumption of alcohol in recent years. One can only rejoice at this fact. It is true that a large part of the national wealth is still wasted in the consumption of intoxicating beverages every year, wealth that might have been put to better uses. While we do not take the stand of the total abstainers, that every drop of alcohol is a drop of poison and that, therefore, all use of liquor on account of its admittedly great dangers, should be most energetically opposed, yet, on the other hand, it can not be denied that, even in medicine, the importance of alcohol as a stimulant and nutrient has been considerably overrated. Until the beginning of the campaign against the abuse of alcohol the consumption of beer and wine was almost a measure of the national feeling (*Massstab für die nationale Gesinnung*), especially in academic circles. To-day this is happily changed. One need no longer feel ashamed of a moderate use of alcohol or even of total abstinence either in private circles or in the inns. Still there remains much to be done in this direction. As the renowned hygienist of Munich, Professor Gruber, showed in a recent address on the alcohol question, beer is still drunk very extensively. In 1905, 129 liters (33 gallons) per capita were used by the German people, and even if the use of brandy has diminished the consumption of absolute alcohol amounts to 9.6 liters (4½ gallons) per capita per year. Even now 3,000,000,000 marks ($720,000,000) are spent for alcoholic beverages in Germany yearly, and many workmen's families spend from one-fifth to one-fourth of their earnings for such drinks. In Munich, which is, indeed, the greatest beer city of the world, immense amounts of beer are still consumed. However, even here, gratifying progress is not to be denied, for in 1907 the consumption of beer was less by 200 liters per head than it was twenty years ago.

It is evident that the authorities are supporting the campaign against intemperance as far as possible. The organs of the social workmen's insurance societies, the railroad managers and the municipal officials are taking part in this campaign by issuing appropriate regulations, establishing places for the sale of alcohol-free drinks, and by disciplinary punishment of drunkenness and the discharge of intoxicated employés. Some railroad managers have lately installed in the workshops automatic vending machines for bouillon capsules, which are gladly used by the workmen to prepare for themselves, with the aid of hot water, a palatable broth.

For a long time apparatus for furnishing Seltzer water and for making coffee have been placed in the workshops. The use of milk, tea, coffee and nutritious broth is constantly increasing among the railroad employés. The traffic in these articles is either in the hands of the company or in those of the workmen's societies, which apply the profits to benevolent purposes.

It is to be hoped that the cause will make further progress. At any rate, we have already reached more advanced ground than our neighbor, Russia. According to a statement of the *Petersburg medizinische Wochenschrift*, there are sold from the three depots in St. Petersburg alone—in Russia the sale of brandy is a state monopoly—about 3,928,000 kegs (*Eimer*) of brandy; 445 official brandy shops attend to the retail trade in addition to about 2,900 private establishments of various sorts. As is easy to understand, the consumption of the poorer sorts of brandy is markedly greater than that of the better. Denatured spirits are very often drunk either after chemical treatment or even unaltered. Under Russian conditions it is not strange that the officials in Warsaw recently forbade the delivery of a course of lectures organized by a temperance society on the injurious effects of alcoholism. A reduction in the amount of liquor consumed would check the flow of the fountain now yielding an income for the government and for the venal officials.

Progress of the Public Health in Germany.

It is not strange, in consideration of the persistent efforts in all the various departments of hygiene, that the public health in our country has made remarkable progress. This is evident in the reduction in the number of deaths in proportion to the population. This reduction is especially noticeable in the large cities, where in the last thirty years a reduction of the mortality of from 25 to 30 per cent. has been recorded. To be sure, this diminished mortality does not affect the period of infancy, a fact to which we called attention in a previous letter. According to statistics recently issued by the imperial statistical bureau, the expectancy of life for all ages has materially increased in the last decades. A child of 10 years has to-day the prospect of living 5 years longer than he had thirty years ago; a man 20 years old, about three years; a woman of 20, about three and a half years. Even in the case of a man of 70, the average expectation of life is now about five months and that of a woman of 70 about six months longer than formerly.

Pharmacology

LLOYD'S CONSUMPTION CURE.

The Latest Developments in the Exploitation of J. Q. Lloyd's Many Named "Specific."

In The Journal, November 21, we described J. Q. Lloyd's "scheme to work the doctor" by means of his "consumption cure," Aicsol or Anti-Phthisis (Lloyd) or Lloyd's Specific, as it has been called. His latest scheme, it will be remembered, was to put the "cure" on the market under still another name and sell it "direct to consumptives" "on the mail-order plan." We learn that its new "mail-order" direct-to-the-public name is Re-Stor-All—a cognomen which gives it one more claim to classify with "patent medicines" of the Pe-ru-na type and other hyphenated nostrums.

ALSO A CURE FOR PARALYSIS.

From one of the testimonials that Lloyd is going to send "direct to the public," we learn that Re-Stor-All, *alias* Aicsol, *alias* Anti-Phthisis, *alias* Lloyd's Specific, not only cures tuberculosis, but also paralysis. In this interesting and instructive testimonial, dated October 27, a St. Louis lawyer states that he took the first bottle of Re-Stor-All "on the 26th day of July." (According to Mr. Lloyd, Re-Stor-All will not be on the market before December 1!) After curing himself of tuberculosis this lawyer thought that this preparation might be good for some other conditions—and in this conjecture, it seems from his report, he was not disappointed:

> "I advised my mother, who is 70 years of age, and who was afflicted with paralysis of one side of her face and her right arm for 20 years, to try Re-Stor-All. Her face, which had been drawn to one side and one eye-lid which had been dropped down, and also her right arm, was *completely cured by the use of one bottle*." —[Italics ours.—Ed.]

We shall be surprised if Mr. Lloyd, with his highly developed business instinct, does not advertise this multi-christened preparation under still another name as a cure for paralysis. The remedy unquestionably possesses great potentialities, if not of a remedial, at least of a financial nature.

LLOYD'S HEADQUARTERS.

The following letter from a St. Louis physician who paid a visit to the "headquarters" of this concern is enlightening:

St. Louis, Nov. 21, 1908.

To the Editor:—I called this morning at the place of the Judd Q. Lloyd Chemical Co. at 548 DeBaliviere Avenue. After telling Mr. Lloyd that I was interested in his medicine and that I had heard a great deal about it, he gave me a sample bottle of Aicsol. He told me that the "formula" was correct, and that each ingredient was in the proportions as stated on the bottle. He said that the secret of the medicine was in the way of combining the different ingredients and as that was his discovery he would not disclose it.

As he thought that I had some money, he then tried to sell me some stock and gave me an "inside" to his scheme. He said that the articles for incorporation were now at the state capital and that they were going to reorganize a new company and call it the Re-Stor-All Chemical Co., and that they were going to put up Re-Stor-All, which is to be sold to the laity.

On questioning him, he said that it was the same thing as Aicsol, which was intended for physicians' use. He said that the way they were going to reach the public was through the daily press, and that they were going to advertise in the daily newspapers of all the large cities, a half-sheet every day, and the laity reading these will send for treatment.

He said that they were going to charge $5.00 a month, payable in advance, and in passing he said our profit would be $4.50. I suggested that all the people that sent for medicine would not have consumption, and he replied that any persons that had had a brother or friend die of consumption, if they only had a pain in their stomachs, would think that they, too, had consumption and would send for a bottle of his medicine.

After the new company was in operation they intended, Mr. Lloyd said, to start a tent colony for tuberculosis a short distance from his so-called laboratory. In connection with this he said that a certain high federal officeholder of the city of St. Louis was interested in the company, and that he had some land that he wanted to sell the company.

As a further inducement, he told me that if I took stock in the company he would give me a position in his office, as he needed a physician in the office to answer letters from the people, to prescribe doses and the like, and also to visit his tent colony. He said that he was not registered in this state and for that reason he needed a registered physician. He showed me a letter he got from a patient with five dollars enclosed for one month's treatment.

On request, he showed me through his "laboratory," a room about thirty by forty feet, which was about one-fourth filled with copies of the *St. Louis Star* of Nov. 7. He showed me a brick affair about six by ten feet square which looked like an oven, and this he told me contained a copper retort in which he mixed his medicine. There was a gas range in this room also, on which were two kettles. There were a couple of barrels which, he said, contained the finished article, and there were a good many packages put up. In the same room were twenty-four or twenty-five girls wrapping up this edition of *The Star* and sending out circulars to physicians about taking stock.

In the yard was an old tent in which he said a consumptive lived, but who was shining shoes the day I called. In a yard were eight rabbits and one guinea-pig. He said there were more of the pigs under the ground. He showed me a dog, "Kate," which he said he had cured of consumption four times: there was also another dog there. In a small shed were three monkeys, one, which was a little thin, he said had consumption. He also had a chicken coop with several chickens in it. He said that he mixed chicken's blood with tubercle bacilli and injected this to produce tuberculosis in the animals. In the yard were also six or eight barrels that appeared to be empty, and I think he said that tar came in them.

In his office were twelve stenographers, all very busy writing letters of some kind. He said that he was sending out one hundred thousand marked copies of the *St. Louis Star*, and it looked fully that much. He also said that he was not doing any work with animals now nor was he experimenting, as he had done all that, and now he was busy putting up the medicine. ——— ————, M.D.

PURCHASING THE PRESS.

In his letters to physicians, referring to the "article" which appeared in the *St. Louis Star*, Lloyd emphasizes the fact that "this write-up is given us *gratis*." Evidently this is the "free enlargement" scheme adapted to the exigencies of journalism. Who has not been approached by the suave gentleman who offers to enlarge your photograph *gratis*—providing you are willing to pay a nominal sum to cover the cost of "our handsome gilt frame and the expense of packing?" What enterprising newspaper, unhampered by an inelastic journalistic conscience, is there but would be willing to furnish a write-up "gratis"—providing the beneficiary thereof was willing to contract for 100,000 copies of the issue which contained it? Such methods of subsidizing the press may seem more crude than those adopted by the Proprietary Association of America, but possibly they are just as effective.

THE CURE NOT A CURE.

It is, of course, unnecessary to deny that this or any other of the hundreds of "consumption cures" on the market will cure the disease, or is of any value. The fact is, practically all of these "cures" are founded on heartless cupidity and downright fraud; occasionally some ignorant enthusiast honestly believes he has something of value, but these self-deluded exploiters are rare; as a rule, the promoters are downright swindlers.

In the earlier stages of his operations, Lloyd was sufficiently unsophisticated in the *finesse* of "patent medicine" exploitation to publish the names and addresses of physicians who had written favorably concerning his preparation. A riper experience in the nostrum business has taught him that such testimonials prove to be boomerangs: hence we now find all physicians' names excluded, because, as Lloyd artlessly says, "medical ethics do not permit the use of physicians' names." We investigated some of those earlier cases in which it was possible to make inquiries and to get at the facts. In every instance, as might be expected, not only was the "cure" a failure, but the physicians who had made the first reports had lost their enthusiasm.

Said one:

> "I can not see that the J. Q. Lloyd remedy for tuberculosis gave me any results that were satisfactory. I do not care to try them longer."

And another:

> "Anyone who allowed himself to be drawn into a 'skin game' such as this evidently is, should not have the confidence of other practitioners. . . . . I can simply state through my desire to better my t. b. cases I have been made the assistant of a fake."

And a third:

> ". . . . the two patients spoken of did do well for a while on the Lloyd treatment, but it was only temporary, both going the way of all such cases, to the grave."

And these expressions of opinion, it should be remembered, are from men who, in the early enthusiasm of trying a new "remedy" had written praising Lloyd's specific.

WHAT IT ALL MEANS.

The promoters of such "cures" know full well how eagerly the hapless consumptive grasps at any therapeutic straw—useless or fraudulent; they also know that there is an inbred belief on the part of the laity that "medicine" will "cure" consumption; they know, too, that the panic fear of the consumptives' relatives will make them believe that every "pain in their stomach" is consumption, and that they, too, "will send for a bottle." But knowing all this, such promoters are willing to make capital out of the fear, the ignorance and the pitiable conditions of those afflicted with tuberculosis. They are in the business, frankly and baldly, for the dollars and cents; but what shall be said of physicians who lend the weight of their names and the authority of their profession that they, too, may soil their hands with the tainted money of the nostrum-exploiter?

And this is the disgraceful thing—for us—in this disreputable business: that some physicians are partners in it. It seems hardly believable, but we have sufficient evidence to warrant the conclusion that at least some physicians have been so misled as to invest in the stock of this concern. Have the glowing advertisements of certain proprietary houses which offer for sale their "stocks" and "bonds" to physicians so hypnotized the medical profession that some of its members are willing to become financially interested in the exploitation of that cruellest of fakes—a consumption cure?

In the words of Samuel Hopkins Adams: "Every man who trades in this market, whether he pockets the profits of the maker, the purveyor or the advertiser, takes toll of blood. He may not deceive himself here, for here the 'patent medicine' business is nakedest, most cold-blooded. Relentless greed sets the trap and death is partner in the enterprise."

More British Nostrums Investigated.

In continuing its articles on "Certain Secret Remedies," the *British Medical Journal*, Oct. 17, 1908, p. 1193, takes up preparations for rupture, considering Rice's treatment for rupture and the "Healine" treatment. As these are not sold to any extent in this country information regarding them is of minor importance to us, but they illustrate the usual methods of nostrum-makers. Rice's treatment pretends to furnish a "developing lymphol" which will enable Nature to repair the breach in the wall. According to the advertisements, the "developing lymphol—Nature's true assistant"—is said to be "a vitalizing and restorative application that is absorbed into the tissues through the skin pores, just as rain-drops sink into the ground to soften the earth and keep it fertile." The company furnishes a mechanical appliance to restrain the outbreaking intestines while the "lymphol" is working. The appliance is supplied with the "lymphol" at prices varying from $5 to $21.50, according to grade. The "lymphol" alone costs $4 for a four-ounce bottle, the cost of which is estimated at 18 cents. According to the *British Medical Journal*, analysis showed the "lymphol" to consist of capsicum resin and essential oils of origanum, peppermint and spearmint, dissolved in alcohol. The results of the analysis of Healine were mainly negative.

Correspondence

The Specificity of Complement Fixation.

Chicago, Nov. 22, 1908.

To the Editor:—Your editorial on the above subject (November 21) has unfortunately not rendered quite clear the present status of this question. The validity of the principle of complement fixation itself (discovered by Bordet) has been amply confirmed by numerous observers. This has furnished a means of identifying various substances with which an organism may be invaded and against which it reacts. The scope of its applicability extends beyond the detection of bacteria and their products to other substances, as proteids, lipoids, etc. It is specific in every sense to a particular antigen (and probably to a particular group of antigens) and the serum containing the corresponding antibodies.

It has become a matter of history that the complement fixation in the serum reaction for syphilis, as was evident in the early works of Fleischmann and myself, does not arise from the interaction of the specific cause of syphilis and its corresponding antibodies, but that it occurs from the fact that there are certain substances present in the blood of syphilitics, not contained in non-syphilitics, which will unite with the extracts of luetic and normal organs, and with certain lipoids, as lecithin, the sodium bile and salts, etc., and in so doing anchor complement.

It was early demonstrated by Landsteiner that the blood of animals inoculated with *Trypanosoma equiperdum*, in the presence of organ extract and complement, caused fixation of the latter. He suggested that it might be found that the blood of patients suffering from infections produced by trypanosomes, spirochetes, etc., might likewise cause a deviation of complement, but this could in no wise lessen the practical value of the serum reaction for syphilis, as these parasites represented infections which could not be confused with syphilis; on the contrary, that this really broadened the scope of the reaction, as suggested by Wassermann, to other infections which would not come into consideration from a differential standpoint with syphilis.

Reports concerning the result of the reaction during a brief period following the eruptive stage of scarlet fever, in view of the above experiences, have suggested the possibility of scarlet fever being caused by a spirochete, thus supporting the view of a group-specificity of the reaction. There have been considerable differences of opinion as to the result of the reaction in scarlet fever. These are attributed, as I can confirm, to differences in the antigens employed. The inhibition of hemolysis in these cases is slight and simply emphasizes the necessity for caution under other circumstances in interpreting slight inhibitions of hemolysis.

The experiments of Wolff-Eisner and Ascher in regard to complement fixation in tuberculosis, which had previously been thoroughly threshed out by Wassermann and by Morgenroth and their pupils, can hardly be looked on as having any bearing on the syphilis question. These are made with a view to determining whether it was possible to demonstrate the presence of antituberculin in the serum of patients with tuberculosis, who had not been treated by tuberculin. This they thought they were able to show, but it is probable that the quantities of antigen (tuberculin) used (0.5 c.c.) were often sufficient of themselves to produce an anticomplement action, something which happens with organ extracts when they are employed in too large quantities or too great concentration.

The comment that the blood of syphilitic patients, pneumonia patients, etc., gave the complement-fixation reaction with tuberculin, but that the blood of normal individuals always reacted negatively, suggests a point on which we are not all equally clear. A positive reaction in immuno-diagnostics indicates a constitutional reaction against a definite antigen. A positive reaction may be expected as long as an active immunity obtains, irrespective of what other diseases exist. Hence patients with syphilis might give a tuberculin reaction, because they are or had at some time been infected with tuberculosis; and similarly patients with tuberculosis might give a syphilis reaction.

The value of the serum reaction for syphilis, instead of being lessened by the enormous amount of experimental work done in connection with it, has been constantly reaffirmed. It has become an established immuno-diagnostic test for syphilis in Europe. The attacks this reaction has withstood in the past two years on the Continent will probably be repeated here, but it is to be hoped, as in the former instance, that they will be founded on actual experiences with it.

William J. Butler.

[Comment.—It would seem that the writer of the above letter has himself conceded the main question at issue, namely, the lack of specificity, from the standpoint of disease, of the complement-fixation reaction with certain antigens. As to whether or not such lack of specificity impairs the diagnostic value of the Wassermann syphilis reaction, the editorial referred to was intentionally somewhat non-committal. The statement cited by Dr. Butler, however, that the other diseases in which a positive reaction is obtained are such as could not be confused with syphilis, is scarcely accurate, particularly in the case of yaws.

In regard to the work of Wolff-Eisner and Ascher, it is improbable that their antigen alone sufficed to prevent hemolysis, inasmuch as no inhibition was obtained when the antigen was used in the presence of normal serum. The authors themselves state that "the tuberculin employed prevented hemolysis slightly only in quantities from 0.5 c.c. up. This effect can, therefore, be neglected with the dilutions used." Dr. Butler's suggestion that the positive reaction obtained by them in cases of various non-tuberculous diseases might be due to a previous or coexisting tuberculous infection, is of course a possibility. It surely would be a remarkable coincidence, however, were all their pathologic subjects to have a tuberculous history, and their normal subjects to be free from that infection!

Finally, the alleged unfortunate failure of the editorial to render quite clear the present status of the question is perhaps unavoidable in view of the lack of clarity of the present status of the question itself.—Ed.]

Psychotherapy.

Chicago, Nov. 20, 1908.

To the Editor:—The letter by Dr. Jacobson in The Journal, Nov. 14, should receive the serious attention of the profession. The endeavor to establish a higher grade medical curriculum, as well as the efforts to encourage a better class of young men to take up the study of medicine, no doubt will bear fruit ere long. The cheap medical college will then die a natural death and believers in physical culture, Fletcherism and similar cults will learn the real truths about right living. The problems facing the profession to-day, however, are of different nature, the pseudoscientist cults—church clinics, Dowieites, new thought, eternal progress, spiritualistic healers, etc.—are the real obstacles that confront the profession and those that must be dealt with intelligently ere long.

In my opinion there is but one way to solve these problems, and that is by encouraging the scientific study of the principles underlying all this class of phenomena. Psychology is now receiving the attention it deserves. Psychic phenomena, which constitute the real underlying basis of all the above named cults, are still largely tabooed by the scientist in America. In Europe, however, many eminent physicians and practically every scientist is interested in this subject. The facts in relation to them are no longer doubted and it is to be hoped that ere long some scientist will make known some of the laws that control these manifestations. All knowledge is gained by observation, and though the problems presented seem insurmountable the rule laid down by the late Lord Kelvin in 1871 holds good now as it has during the past thirty-five years; he then said: "Science is under bonds, by the eternal principle of honor, to look fearlessly in the face of every problem that is presented to her."

I am firmly convinced that the scientific investigation of psychologic problems ultimately will be of great benefit to humanity and a practical help to the honest seeker after truth. The time is ripe for the intelligent, thoughtful man of science to encourage the study of this phenomenon with the same care and consideration that has characterized his research into the fields of biology, pathology, bacteriology and chemistry.

The amount of literature on these subjects in practically all the popular magazines is paving the way for a greater field for the charlatan than he had ever dared to hope for.

Daniel S. Hager, M.D.

Tacoma, Wash., Nov. 26, 1908.

To the Editor:—Dr. Jacobson's letter, in The Journal November 14, appeals to me as very rational. It must be conceded that the very fact of the existence of so many well-patronized irregular methods of treatment reflects on the adequacy of results at the hands of physicians. From staid old Boston to happy-go-lucky Tacoma or Seattle the irregulars are profusely supplied with material for the laying on of hands and the exercise of faith. They have existed too long and have done too much service to be longer derided; the half-truth of their dogmas must be acknowledged.

Of all the efforts, genuine or counterfeit, to fill the gap the recent movement in Boston with the Rev. Dr. Worcester at its head probably is recognized by those acquainted with its intricacies as the nearest to the ideal yet devised. With the diagnostician's verdict in his hands, the Emmanuel worker does what the regular practitioner does not do in the class of nervous cases selected: he makes use of that wonderful and vital force of most men, the religious part of them, for the relief of the physical. We physicians mentally appeal to a patient and demand his confidence; the Emmanuel worker communes with the *spiritual man and demands his faith*. In psychotherapy the tie between the healer and the one who would be healed can not be made too strong and the aid can not be made too powerful.

Looking at the matter squarely, can we wonder that coadjutors whom we do not recognize have sprung up from the wrong sources to supplement our insufficiency? I think we are awaking with a start to our weaknesses. How much more potent would a movement such as that which originated in Boston be had it sprung from the bosom of the learned medical profession! How much more sensible and practical would it be for the physician to call in the spiritual adviser than for the spiritual adviser to be compelled to call in the physician—in his own domain!

It is not possible for us perhaps to be "all things to all men." Some of us consult a pathologist to make use of his technic; we send our prescriptions to the druggist to be compounded; we have a masseur on our list for the cases needing massage; why not have for the mutual benefit of all concerned a trained religious worker on our staffs to utilize the spiritual in conjunction with our established treatment. I agree with all those who truly believe that the spiritual natures of our neurasthenic and mental patients are agents too powerful to be longer disregarded.

Edward A. Rich, M.D.

A Pioneer in the Fight Against Quackery.

St. Louis, Nov. 23, 1908.

To the Editor:—The department of Medical Education and State Boards of Registration in The Journal is one of the highest interest and importance, and, in looking over the contents I have more than once thought that the prime mover in the great undertaking for better things which this department evidences did not receive during life that full recognition at the hands of the medical profession which his achievements deserved. Nor has this acknowledgment been publicly made since his death.

I refer to the late Dr. John H. Rauch, secretary for many years of the State Board of Health of Illinois, who, in all matters pertaining to medical education in America, was a pathfinder, pioneer, waymaker—one who fought the good fight for honesty and thoroughness in medical teaching and training with such persevering firmness that the fruits are now being gathered throughout almost the entire length and breadth of this continent, and whose well-earned fame can in no wise be dimmed through the luster gained by those who may come later.

As secretary of the State Board of Health of Missouri for a period concurrent with a part of the public life of Dr. Rauch I was in sympathetic official touch and agreeable personal relations with him, and can testify to the friendly aid often extended to clear up the new and difficult questions that arose with respect to the standing of schools, dealing with advertising frauds, examination and licensing of medical applicants, and the like.

Where the body of Dr. Rauch was buried is not known to me, nor whether the spot is marked by any memorial adequately showing the vastness and value of his work to the public and the profession; but, in view of his life and labors, the question may be asked whether it is not a serious obligation resting on the organized profession of Illinois to take the lead in a movement to raise in some appropriate place a memorial in marble or bronze that shall signify to later generations his rightful place in the great struggle in which he was the chief leader, *censor medendi, pontifex medicus.*

The evidences of his worth and work should appeal to every reputable medical college now extant in the land, for in testimony of his merit may be shown the graveyards where a host of fraudulent concerns were buried through his energy, pluck and ability. Therefore such medical schools, and the various state sanitary and licensing boards should welcome the opportunity to aid in forwarding a movement to render a fit tribute to the memory of a man whose services were fundamental, beneficent, and of enduring value to the welfare of his fellowmen.

George Homan, M.D.

Hyperemic Treatment Not New.

Sidney, Ohio, Nov. 21, 1908.

To the Editor:—The advertisement of a volume entitled "Bier's Hyperemic Treatment" calls to my mind the fact that this alleged new discovery is new neither in principle nor in application. It is not, as the advertisement alleges, a therapeutic discovery of greater importance than any within recent years. In principle it is simply an amplification of the cupping-glass and adapted to a wider range of utility. I have in my possession the old air-pumps and several of the parts of an apparatus which was adapted to apply this method to every part of the human body, including the whole trunk except the head. The outfit was well made of japanned tin, glass, and pure rubber or rubber cloth, and would fit over any of the prominences of the body, as the knee, shoulder and hip. The receptacles for the body, arm and leg were made of tin. Even the fingers were provided for. By whom this apparatus was made or devised is not known, but it was supposed to be patented and was sold for several hundred dollars. It was owned by a man who had a mania for "patent rights," and at his request I made trials of its merits at intervals as opportunity offered. The results were not more satisfactory than the results of other methods of treatment.

It is well said that it is not a panacea. Like other therapeutic measures, in selected cases it has a field of usefulness. But to herald it as a new discovery of great importance is nonsense. Of course the treatment can be applied to every variety of lesion and disease, but the results usually will be disappointing. Verily there is nothing new under the sun—especially in hyperemic treatment. It was in use half a century ago.

D. R. Silver.

Instruction in Medical Ethics.

Memphis, Tenn., Nov. 27, 1908.

To the Editor:—Dr. Bryant's letter concerning the teaching of medical ethics, which appears in The Journal, November 28, is more than timely. It should be a part of the curriculum of every medical school to instil these principles into the minds of their students through a series of lectures on medical ethics, for during their student days the future practitioners are in the most receptive mood for such instruction. In the school with which I am connected a course of lectures in medical ethics has been conducted for two sessions, and every graduate of the institution when he is handed his diploma receives at the same time a copy of the "Principles of Medical Ethics of the American Medical Association."

Richmond McKinney.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

CUGUILLERE'S SERUM.

Philadelphia, Nov. 7, 1908.

To the Editor:—In The Journal, Nov. 7, 1908, page 1626, Dr. Eugene Caravia advocates the use of Cuguillère's serum, which he says "consists of allylum sulphid 1 gram, tincture of myrrh 1 gram, and Hayem's glycerinated serum 100 grams. It is a yellow liquid, with a strong odor of garlic and is non-toxic." Please tell *me if this is a proprietary* remedy or a proper therapeutic measure *to be employed by reputable physicians; also* where it can be obtained, if it is as capable of beneficial influences as is indicated in the brief abstract referred to. Inquirer.

Answer.—*The formula given* above is the one announced by Dr. *Cuguillère in a short communication* on his "serum" before the surgical section of the International Congress on Tuberculosis at Paris (1905; see *Transactions,* ii, 11). It appears, therefore, to be no serum at all, because the "serum" component is merely Hayem's fluid or artificial serum, the formula of which is usually given as mercuric chlorid 0.5, sodium sulphate 5, sodium chlorid 1, distilled water 200, with an addition of glycerin. The two other components are the "active" ones, according to Dr. Cuguillère, who has a strong belief in the "extraordinary power of garlic and the ethereal oils containing organic sulphur." Allylum sulphid $(C_3H_5)S$ is the principal component of the ethereal oil of *Allium sativum,* and like the latter (garlic) has had some reputation as a remedy for tuberculosis. Regions in which much garlic is consumed, such as *Galicia,* are reported comparatively free from tuberculosis; and R. Koch has also experimentally demonstrated that the bacillus is little resistant against the various aromatic substances, especially the oil of garlic and the allied oil of mustard. From a report of Caravia ("Cuguillère's Serum in the Treatment of Tuberculosis," *Medical Record,* N. Y., 1908, lxxiv, 520) we learn however, that Cuguillère, who prepares and distributes his "serum" himself, holds that since the synthetic allylum sulphid is inactive, it is necessary to employ the "organic" sulphur from fresh juices of brassica, allium, watercress, horseradish, etc. Therefore the formula given can not indicate the true composition of this "serum." It is given by intramuscular injection at doses from below 5 c.c. to the "useful maximum dose of 15 c.c." There are so few reports of the use of this preparation that it is impossible to arrive at any definite conclusion regarding its value.

CALOMELOL OINTMENT.

St. Louis, Nov. 16, 1908.

To the Editor:—I am in receipt of an advertising pamphlet entitled "Calomelol Ointment (Heyden)." Among other things I find therein an article "by Professor Neisser and Dr. Siebert," from which I quote (page 6): "*Calomelol ointment contains 45 per cent.* of Calomelol, which *consists of calomel in a* colloidal or soluble *form.* Calomelol . . . is soluble in water one part to fifty, and also in blood serum, in the secretions of the body, etc. It contains 66 per cent. of metallic mercury. In addition Calomelol ointment contains 2 per cent. of free metallic mercury." Until now I supposed that calomel (of which Calomelol "consists") was insoluble in any "form" in water, and contained very nearly 85 per cent. of mercury. *Please explain the matter to me.*

Joseph Grindon.

Answer.—The ordinary insoluble calomel is *formed* when a solution of sodium chlorid is treated with mercurous *nitrate.* According to the patent specification, a water-soluble *colloidal* calomel is made by treating a solution of sodium chlorid *in the* presence of a proteid with mercurous nitrate; the product is precipitated by alcohol, collected and dissolved in water *with the* aid of a little alkali. This is the product sold as Calomelol. The exact constitution of this product has probably not been *established,* but it is generally believed to be calomel which, *through the intervention* of proteid in its formation, has not become insoluble. A number of similar colloidal products have been prepared. *Of these* the best known are the colloidal forms of metallic *gold and* metallic silver, the latter having been introduced in medicine. The colloidal silver and colloidal gold are supposed to be metallic silver and gold, differing from the metallic form in being water-soluble.

HYPODERMIC USE OF MERCURY IN SYPHILIS.

Nebraska City, Neb., Nov. 14, 1908.

To the Editor:—What is the best salt of mercury for hypodermic use in syphilis? In a formula containing *benzoate of mercury,* sodium chlorid and water, is not a *chlorid of mercury* formed?

F. S. Marnell.

Answer.—This subject has been discussed in The Journal by W. S. Gottheil ("Ten Years' Experience in the Treatment of Syphilis by the Intramuscular *Injection of Insoluble* Mercurials," Aug. 3, 1907, xlix, 365); by R. Wernigk ("*Twelve Years'* Experience in the Treatment *of Syphilis by Intravenous* Injections of Mercury, Arsenic and Iodid of Sodium," *Feb. 22, 1908,* l, 609); and by H. G. Klotz ("Mercurial Treatment for Late Manifestations of Syphilis," this issue, under *Original Articles*); *also in this* department ("Value and Technic of *Mercurial Injections,"* Sept. 5, 1908, li, 859). Various salts are recommended, chiefly the chlorid, salicylate, benzoate, succinimid, *and* the *iodo-phenol-sulphonate* (sozoiodolate). The benzoate is *soluble in water with difficulty,* but is much more soluble in the *presence of sodium chlorid.* The salts exist in solution *chiefly in the form of ions, so that it is* perhaps not correct to say that the chlorid is formed. On concentration the benzoate, *as it is the less soluble, would* separate from the solution first, but it is not *practicable to determine the* exact form in which these compounds exist *in solution. The sozoiodolate* also is insoluble; it is dissolved by *the aid of sodium iodid* (mercury sozoiodolate 1 *gm.,* sodium iodid 3 *gm., water to make* 100 c.c.); and in the solution the mercury *probably exists in combination* with iodid.

ARSENIOUS ACID TREATMENT OF EPITHELIAL CANCER.

Scottsbluff, Neb., Nov. 17, 1908.

To the Editor—On page 1740 of The Journal, November 14, I note reference to a formula of Cerny and Trunecek, of Prague, which I infer was given in The Journal at one time.

May I ask where I can obtain this formula?

A. G. Emerson.

Answer—Several other correspondents ask the same question, hence *we reply at some length. The original illustrated article by* S. Cerny and C. Trunecek, of Prague, was published in the *Semaine Medicale*, Paris, *March 12, 1899,* page 100. They warn that the *method is indicated only* when the glands show no signs of *induration,* but the more ulcerated the surface, they add, the more rapid *the action* of the arsenic, as also when the cancer cells are young. *As the adult cells* on the surface are thrown off in the eschar and *younger cells* are reached, *the healing process proceeds more rapidly.* The eschar drops off without hemorrhage and the raw surface that is left is treated as an ordinary wound. The characteristic eschar which forms can not be produced by the arsenic on an ordinary wound. *It seems to result from the* special combination of the arsenious acid with the albumin of the cancer cells. The *method was referred to in* The Journal, May 7, 1898, *and* April 8, 1899. From the last mentioned issue we quote:

"The treatment of epithelial cancer with daily applications of a mixture of arsenious acid, 1 gram; ethyl alcohol and distilled water, each 75 grams, reducing later to 50 and 40 (vide Journal, XXX, p. 1116), first dehydrates the cancer-cells by the action of the alcohol. The protoplasm of the cells is then coagulated by the arsenic. The cells of the cancerous connective tissue degenerate and a serous exudation is induced, which in turn affects the cancer-cells already mummified by the arsenic. A demarcation inflammation then ensues on the sound parts, followed by the elimination of the neoplasm as a foreign body, without hemorrhage. The forms amenable to this treatment are those without indurated ganglia in which local treatment is possible. Its chief advantage over surgery is that it destroys every cancer-cell without injuring the sound tissue. An analgesic can be added to the solution if the applications are very painful; morphin may be necessary for the severe *pain that occasionally follows,* an hour later, especially in case of *carcinoma. The writers urge the general adoption* of this harmless, *effective cure.* Three weeks are sufficient in the early stages. Extensive lesions *may require a few months.*"

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending November 28, 1908:

Torney, George H., col., relieved *from* present duties in San Francisco, Dec. 1, 1908, and directed to repair to Washington, D. C., for duty in the office of the Surgeon General.

Kennedy, J. M., maj., directed to report for assignment as commanding officer, Army General *Hospital,* San Francisco, Dec. 1, 1908.

Pierson, R. H., capt., granted leave of absence for ten days.

Barney, F. M., M.R.C., ordered from temporary duty at Ft. McHenry, Md., to Ft. Howard, Md., for temporary duty.

Griffis, F. C., M.R.C., ordered to *accompany* troops from Ft. Sheridan, Ill., to Ft. D. A. Russell, Wyoming, and return to station.

Wren, R. J., M.R.C., sick leave of absence extended one month.

LeHardy, J. C., M.R.C., order for sailing for Philippine service amended; will sail Jan. 5, 1909, instead of Dec. 5, 1908.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending November 28, 1908:

Passed Assistant Surgeon P. T. Dessez, ordered to temporary duty at the Naval Hospital, Mare Island, Cal.

Assistant Surgeon G. D. Hale, detached from the *New Hampshire* and ordered to the *Idaho*.

Assistant Surgeon F. P. W. Hough, detached from the Naval Hospital, Portsmouth, N. H., and ordered to the Naval Proving Ground, Indian Head, Md.

Assistant Surgeon F. P. W. Hough, detached from the Naval Proving Ground, Indian Head, Md., and ordered to the *New Hampshire*.

Surgeon O. D. Norton, detached from the Naval Recruiting Station, New York, and ordered to continue duty in attendance on officers and enlisted men of the Navy and Marine Corps in New York not otherwise provided with medical attendance.

Public Health and Marine-Hospital Service.

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended Nov. 25, 1908:

Kalloch, P. C., surgeon, directed to proceed to Oak Grove, Me., for special temporary duty.

Carrington, Paul M., surgeon, on being relieved by Passed Assistant Surgeon H. S. Mathewson, directed to proceed to San Diego, Cal., and assume charge of the station.

Wertenbaker, C. P., surgeon, detailed to represent the service at the thirteenth annual meeting of the Seaboard Medical Association of Virginia and North Carolina, at Washington, N. C., Dec. 1-3, 1908.

Mathewson, Henry S., P. A. surgeon, on being relieved by Passed Assistant Surgeon C. W. Wille, directed to proceed to Fort Stanton, N. M., and assume command.

Grubbs, S. B., P. A. surgeon, directed to report at the bureau for further instructions.

Gwyn, M. K., P. A. surgeon, on being relieved by Assistant Surgeon William M. Bryan, directed to proceed to Baltimore, Md., and report to the medical officer in command for duty and assignment to quarters.

Holt, John M., P. A. surgeon, granted 1 day's leave of absence, Nov. 14, 1908.

Wille, C. W., P. A. surgeon, on being relieved by Passed Assistant Surgeon J. T. Burkhalter, directed to proceed to Cleveland, Ohio, and assume command.

Burkhalter, J. T., P. A. surgeon, on being relieved by Surgeon W. P. McIntosh, directed to proceed to Gulf Quarantine Station and assume command.

Collins, G. L., P. A. surgeon, granted 3 days' leave of absence from Nov. 17, 1908, under Paragraph 189, Service Regulations.

Bryan, William M., asst.surgeon, on expiration of present leave of absence, relieved from duty at the New Orleans Quarantine Station, and directed to proceed to the South Atlantic Quarantine and assume command.

Goldsborough, B. W., acting asst.-surgeon, granted 6 days' leave of absence from Nov. 28, 1908, under Paragraph 210, Service Regulations.

Gustetter, A. L., acting asst.-surgeon, leave of absence for 10 days from Nov. 15, 1906, granted Nov. 9, 1908, amended to read from Nov. 16, 1908.

Hill, Eugene W., acting asst.-surgeon, granted 4 days' leave of absence from Nov. 24, 1908, under Paragraph 210, Service Regulations.

Light, S. D. W., acting asst.-surgeon, granted 22 days' leave of absence from Nov. 17, 1908.

Minthorn, Henry J., acting asst.-surgeon, granted 7 days' leave of absence from Nov. 23, 1908, under Paragraph 210, Service Regulations.

Tappan, J. W., acting asst.-surgeon, directed to make inspections at Del Rio and Hidalgo, Texas, Nov. 17, 1908.

APPOINTMENT.

Dr. Carlisle P. Knight appointed an acting assistant surgeon for duty at Kobe, Japan, Nov. 21, 1908.

BOARD CONVENED.

Board of medical officers convened to meet at the Marine-Hospital in Baltimore, Md., Nov. 25, 1908, for the purpose of conducting physical examinations of the members of the graduating class of cadets of the Revenue-Cutter Service; Passed Assistant Surgeon W. C Billings, chairman; Assistant-Surgeon A. J. Warner, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended *Nov. 27, 1908*:

SMALLPOX—UNITED STATES.

California: Oct. 31-Nov. 7, Los Angeles, 1 case; San Francisco, 2 cases.

Indiana: Oct. 31-Nov. 7, Elkhart, 3 cases; Fort Wayne, 1 case; LaFayette, Nov. 2-16, 3 cases.

Kansas: Oct. 31-Nov. 7, Topeka, 2 cases; Wichita, 1 case.

Kentucky: Nov. 7-14, Covington, 4 cases; Lexington, 1 case.

Ohio: Cincinnati, Nov. 5-12, 5 cases.

Washington: Spokane, Oct. 31-Nov. 7, 1 case.

Wisconsin: La Crosse, Oct. 31-Nov. 16, 5 cases.

SMALLPOX—FOREIGN.

Brazil: Rio de Janeiro, Sept. 27-Oct. 18, 1,420 cases, 652 deaths; Santos, Sept. 13-Oct. 14, 36 cases, 15 deaths.

Canada: Oct. 31-Nov. 7, Halifax, 1 case; Victoria, 1 case.

Egypt: Cairo, Oct. 7-21, 4 cases, 2 deaths.

India: Bombay, Oct. 13-20, 6 deaths; Rangoon, Oct. 3-10, 1 death.

Indo-China: Cholen, Sept. 25-Oct. 3, 1 death.

Italy: General, Oct. 25-Nov. 1, 39 cases; Naples, Oct. 25-Nov. 1, 8 cases, 1 death.

Mexico: Mexico City, Sept. 19-Oct. 3, 9 deaths.

Norway: Christiania, Oct. 10-24, 6 cases, 1 death.

Russia: St. Petersburg, Oct. 10-17, 4 cases, 1 death; Warsaw, Sept. 25-Oct. 10, 9 cases.

Spain: Barcelona, Oct. 25-31, 4 deaths; Valencia, Oct. 24-31, 2 cases.

Turkey: Constantinople, Oct. 18-Nov. 3, 7 deaths.

CHOLERA.

China: Hongkong, Sept. 19-26, 1 case, 1 death.

India: Madras, Oct. 3-16, 29 cases, 19 deaths; Rangoon, Oct. 3-10, 1 death.

Indo-China: Sept. 27-Oct. 3, Cholen, 2 cases, 2 deaths; Saigon, 1 case, 1 death.

Russia: Odessa, Sept. 19-26, 4 deaths; St. Petersburg, Nov. 4-9, 258 cases, 29 deaths.

Straits Settlements: Singapore, Sept. 19-Oct. 3, 2 deaths.

PLAGUE.

Brazil: Rio de Janeiro, Sept. 29-Oct. 18, 16 cases, 7 deaths.

Chile: Iquique, Oct. 12, 4 cases.

China: Hongkong, Sept. 19-26, 1 case, 1 death.

Egypt: General, Oct. 14-Nov. 3, 20 cases, 12 deaths; Alexandria, Oct. 14-Nov. 3, 6 cases, 4 deaths.

India: General, Sept. 26-Oct. 10, 4,977 cases, 3,699 deaths; Bombay, Oct. 13-20, 16 deaths; Rangoon, Oct. 3-10, 3 deaths.

Indo-China: Sept. 26-Oct. 3, Cholen, 9 cases, 9 deaths; Saigon, 8 cases, 7 deaths.

Peru: General, Oct. 814, 27 cases, 13 deaths; Callao, 2 cases, 2 deaths; Lima, 2 cases, 1 death.

Marriages

Benjamin F. Roller, M.D., to Miss Tracy Helen Aylwin, both of Seattle, June 5.

George E. Pfahler, M.D., to Miss Frances Simpson, both of Philadelphia, November 21.

Frederic Dinkler, M.D., to Miss Rufus Cochran, both of Fort Cobb, Okla., November 10.

Norman O. Nelson, M.D., Madison, Wis., to Miss Edith Smith, of Baltimore, November 21.

Joseph Conn, M.D., New Orleans, to Miss Hortense Holzman of Shreveport, La., November 2.

George O. A. Kellogg, M.D., Nampa, Idaho, to Miss Effie Cowley, of Boise, Idaho, November 11.

W. Wade Doster, M.D., St. Johns, Kan., to Miss Helena Wilson of Philadelphia, November 11.

J. Gill Allan, M.D., to Miss Blanche Claypoole, both of Edgewood, Ill., at St. Louis, October 28.

Samuel F. Hassler, M.D., to Miss Mae Reed, both of Harrisburg, Pa., at Baltimore, September 30.

Anthony F. Dougherty, M.D., Ashley, Pa., to Miss Teresa L. Murphy, of Plains, Pa., November 10.

Job Theophilus Edwards, M.D., New Haven, Pa., to Miss Lizzie Collins, of Pittsburg, November 16.

James S. Bates, M.D., Erwin, S. D., to Miss Blanche Ethel Peirson, of Gascoyne, N. D., November 5.

Neal Edwards Sellers, M.D., Mobile, Ala., to Miss Nell Brown, of Birmingham, Ala., November 10.

Frank U. Swing, M.D., Avondale, Cincinnati, to Miss Louise Hocker, of Cincinnati, November 24.

J. Elmer Porter, M.D., Pottstown, Pa., to Miss Annella Newborn, of Royersford, Pa., November 18.

George Lee Fosque, M.D., Onancock, Va., to Miss Mary N. Fitchett, of Cape Charles, Va., November 18.

G. Edward Campbell, M.D., Hampton, Tenn., to Miss Mary Sue Hurt, at Washington, D. C., November 5.

Perley Raymond Brenton, M.D., Mineral, Wash., to Miss Ruth Ella Greathouse, of Seattle, November 12.

A. E. Goldsmith, M.D., Columbia City, Wash., to Miss Florence A. Sheppard, of Chicago, September 1.

William Sterling Robertson, M.D., to Miss Ellen Booker Roller, both of Charleston, W. Va., November 19.

Lowick Thomas Patillo, M.D., Atlanta, to Miss Leola Ottila LeRosen of Shreveport, La., November 24.

George M. Belhemeur, M.D., Negaunee, Mich., to Miss Louise C. Werner of Lake Linden, Mich., November 9.

Jacob Sieberth, M.D., Hazelhurst, Wis., to Mrs. Marion Van Dyke Ramsey, of Grand Rapids, Wis., November 18.

John C. O'Connor, M.D., Manchester, N. H., to Miss Helen Jackson Raymond, of Salem, Mass., at Marblehead, Mass., November 17.

Deaths

John C. Hupp, M.D. Jefferson Medical College, Philadelphia, 1847; in 1859 secretary of the Section on Practice of Medicine and Obstetrics of the American Medical Association, and chairman of the Committee on Necrology; for ten years treasurer of the West Virginia State Medical Association; and for a like period treasurer of the Medical Society of the City of Wheeling; for several years state vice-president of the Jefferson Medical College Alumni Association; city physician and secretary of the Wheeling board of health in 1864; physician to the Children's Home in 1873; state vaccine agent from 1863 to 1878; consulting physician to the city hospital; president of the Ohio County board of supervisors from 1863 to 1866; a member of the district board of education from 1873 to 1879; and for many years president of the local board of U. S. pension examining surgeons; died at his home in Wheeling, November 18, from senile debility, aged 88.

Frank Lemuel Adams, M.D. Cooper Medical College, San Francisco, 1883; a member of the American Medical Association; treasurer of the Pacific Association of Railway Surgeons; formerly president of the Medical Society of the State of California and the Alameda County Medical Association; one of the founders, president and professor of clinical surgery in the Oakland College of Medicine and Surgery; president of the Oakland Board of Health; surgeon to the Santa Fe system and the Oakland Traction Consolidated Company; died suddenly at the home of his cousin in Oakland, from angina pectoris, November 20, aged 50. The Oakland Chamber of Commerce, at a special meeting, held November 21, passed resolutions laudatory of Dr. Adams, expressive of the loss sustained by the city in his death, and directing that a memorial tablet be placed in the directors' room of the Chamber of Commerce.

George R. Graham, M.D. University of Maryland, Baltimore, 1883; of Baltimore; a member of the Medical and Chirurgical Faculty of Maryland; a veteran of the Civil War; a member of the board of U. S. pension examining surgeons of Baltimore since 1889; department commander of the G. A. R. in 1890; and surgeon general in 1892; past president of the Grand Army Club of Maryland; died in the Maryland General Hospital, November 19, from pneumonia, aged 64.

Casper Coiner Henkel, M.D. University of Pennsylvania, Philadelphia, 1857; a member and twice vice-president of the Medical Society of Virginia; surgeon of the Thirty-seventh Virginia Infantry and later brigade surgeon, division surgeon and corps surgeon in the Confederate service throughout the Civil War; died at his home in New Market, Va., November 16, from diabetes, aged 73.

Charles Cunningham Schley, M.D. University of Georgia, Augusta, 1857; University of Paris, France, 1860; surgeon of the Seventh Georgia Battalion and later division surgeon in the Confederate service throughout the Civil War; one of the heroes of the yellow-fever epidemic of 1876 in Savannah; died at his home in that city, November 19, from cerebral hemorrhage, aged 72.

Charles Dexter Noble, M.D. University of Louisville, 1868; a veteran of the Civil War; surgeon of the Fifth Ohio Infantry, U. S. V., in the Spanish-American War, and for two years thereafter an acting assistant surgeon in the Army; and during nearly all that time on duty in the Philippine Islands; died at his home in Oberlin, Ohio, November 16, aged 65.

Samuel Dauphin Culbertson, M.D. Jefferson Medical College, Philadelphia, 1866; a member of the American Medical Association; a veteran of the Civil War; a member of the house of delegates of the Illinois State Medical Society and the oldest practitioner of Ford County; died at his home in Piper City, November 12, from pneumonia, aged 69.

George W. Perkins, M.D. Harvard Medical School, Boston, 1886 division surgeon of the Union and Southern Pacific Railway at Ogden, Utah; and visiting surgeon to the Union Pacific Railway Hospital; one of the founders, and a member of the staff of the Ogden General Hospital; died in that institution, November 18, from intestinal paralysis, aged 58.

William J. Martin, M.D. Hahnemann Medical College, Philadelphia, 1877; a veteran of the Civil War; a member of the staff of the Pittsburg Homeopathic Hospital for twenty-five years, and president of its medical board; died suddeny at his home, November 17, from cerebral hemorrhage, aged 60.

Samuel John House, M.D. Vanderbilt University, Nashville, 1876; a member of the Tennessee State Medical Association and a member of the board of aldermen of Franklin Tenn.; died at his home November 16, a week after an accident in which he was struck by a train at Mallory Station.

Rufus Revill Applewhite, M.D. New Orleans School of Medicine, 1860; a Confederate veteran; from 1877 to 1887 a member of the Mississippi legislature from Lincoln County; and in 1899 sheriff of that county; died at his home in Brookhaven, November 21, from paralysis, aged 70.

Edward Irving Ford, M.D. College of Physicians and Surgeons, New York City, 1860; surgeon of volunteers during the Civil War; and in charge of the Army General Hospital at Nashville; died at his home in Binghamton, N. Y., November 16, from heart disease, aged 84.

Frederick Arthur Van Buren, M.D. Northwestern University Medical School, 1904; of Lead, S. D.; a member of the American Medical Association; formerly assistant surgeon to the Homestake Mining Company; is said to have been murdered recently in Colorado, aged 32.

Benjamin M. Atkinson, M.D. Jefferson Medical College, Philadelphia, 1852; a member of the Medical Society of Virginia; for many years physician to the Virginia School for the Deaf and Blind, Staunton; died at his home in that city, November 18, aged 78.

William D. Scott, M.D. Medical College of Ohio, Cincinnati, 1896; a member of the American Medical Association; for many years health officer of Georgetown, Ky.; died at the Good Samaritan Hospital, Cincinnati, November 18, from heart disease, aged 39.

Hugh Morison Ives, M.D. New York University, New York city, 1870; major and surgeon during the Civil War; died at his home in Parksville, N. Y., November 19, from paralysis, due to injuries sustained in a fall down a precipice, four years before, aged 69.

James Edward Tompkins, M.D. University of Maryland, Baltimore, 1891; of Fredericksburg, Va.; a member of the American Medical Association; died in Johns Hopkins Hospital, Baltimore, November 18, a few hours after a surgical operation, aged 41.

Benjamin A. Ver Nooy, M.D. Bellevue Hospital Medical College, New York City, 1896; of Pulteney, N. Y.; died in a hotel in Penn Yan, N. Y., November 18, from the effects of a gunshot wound, said to have been self-inflicted while despondent, aged 35.

Orin S. Mills, M.D. Medical College of Ohio, Cincinnati, 1888; house physician to the Columbus (Ohio) State Hospital for the Insane; died in Gallipolis, Ohio, November 24, from a gunshot wound of the head, said to have been self-inflicted, aged 48.

Joseph Alston James, M.D. Medical College of the State of South Carolina, Charleston, 1852; chief surgeon of Kershaw's division, in the Confederate service, during the Civil War; died at his home in Columbia, S. C., November 23, aged 79.

Robert Edward Smith, M.D. Medical College of Alabama, Mobile, 1882; a member of the Medical Association of the State of Alabama; died suddenly at his home in Greenville, November 16, from heart disease.

William L. Fleming, M.D. New York Homeopathic Medical College, 1873; of New York City; a veteran of the Civil War; died in Lincoln Hospital, New York City, November 20, from meningitis, aged 73.

Englebert Frenz, M.D. University of Giessen, Germany; of Saginaw, Mich.; for several terms a member of the board of education; died in St. Mary's Hospital, Saginaw, November 7, from diabetes, aged 68.

Francis Patrick Lewis Cantlie, M.D. McGill University, Montreal, 1902; died at the home of his parents in Montreal, November 10, from the results of a spinal injury received several years before, aged 29.

George W. Norris, M.D. University of Maryland, Baltimore, 1872; while suffering from nephritis, and temporarily insane, shot and killed himself at his home in Baltimore, November 20, aged 62.

Armand Mignault, M.D. University of Victoria College, Cobourg, Ont., 1886; a member of the Massachusetts Medical Society; died at his home in Salem, November 13, from cancer, aged 64.

John H. Purefoy, M.D. Jefferson Medical College, Philadelphia, 1859; for several years postmaster of Furman, Ala.; died at his home in that place, November 22, from cerebral hemorrhage, aged 72.

Boyle Ludwell Ellett, M.D. Missouri Medical College, St. Louis, 1861; a Confederate veteran; postmaster of St. Clair, Mo., for eleven years; died at his home in St. Clair, October 31, aged 69.

Joseph Shreve, M.D. Philadelphia University of Medicine and Surgery, 1866; Hahnemann Medical College, Philadelphia; died at his home in Burlington, N. J., November 19, aged 86.

George W. Todd, M.D. University of Tennessee, Nashville, 1900; health officer of Rutherford County, Tenn.; died from fever at his home in Rucker, November 20, aged 31.

Leona Lebus, M.D. Johns Hopkins Medical School, Baltimore, 1900; of Los Angeles, Cal.; died in a hospital in San Francisco, after a surgical operation, November 20.

David W. McClure, M.D. Medical College of Ohio, Cincinnati, 1885; of Cincinnati; died, November 1, from skull fracture due to a fall in an epileptic seizure, aged 49.

John Newton Poage, M.D. Medical College of Ohio, Cinnati, 1848; died at his home in College Hill, Cincinnati, October 29, from valvular heart disease, aged 83.

William A. Ratliff, M.D. Tulane University, New Orleans, 1886; of Edwards, Miss.; died at the infirmary, Vicksburg, Miss., November 16, from nephritis, aged 45.

John C. Connell, M.D. University of Nashville, 1880; formerly of Goodlettsville, Tenn.; died at his home in Nashville, November 22, from heart disease, aged 52.

Walter Marsh Jackson, M.D. Harvard Medical School, Boston, 1868; of Stamford, Conn.; died suddenly from heart disease in that city November 15, aged 66.

John S. Van Marter, M.D. Philadelphia College of Medicine and Surgery, 1886; died at his home in New Brunswick, N. J., November 20, aged 71.

Lewis S. Blackwell, M.D. University of Pennsylvania, Philadelphia, 1857; died at his home in Perth Amboy, N. J., November 18, aged 75.

Christian William Davis, M.D. Jefferson Medical College, Philadelphia, 1890; died at his home in Philadelphia, November 14, aged 45.

Joseph Sills Campbell, M.D. Queen's University, Kingston, Ontario, 1890; died at his home in Rochester, N. Y., November 6, aged 38.

George W. Horn, M.D. Bennett Medical College, Chicago, 1873; died at his home in Sharon, Wis., November 20, aged 70.

Society Proceedings

COMING MEETINGS.

Southern Surgical and Gynec. Assn., St. Louis, Dec. 15-17.
Western Surgical and Gynec. Assn., Minneapolis, Dec. 29-30.
American Assn. of Anatomists, Baltimore, Dec. 29-31.

SOUTHERN MEDICAL ASSOCIATION.

Second Annual Meeting, held at Atlanta, Ga., Nov. 10-12, 1908.

(Continued from page 1893.)

Diagnosis and Pathology of Malaria.

Dr. William Krauss, Memphis, Tenn.: The majority of physicians rarely resort to blood examination in diagnosis of malaria. The symptoms and the quinin test are not to be omitted entirely, but they are often very unreliable. Even though there exist no doubt as to the case being one of malarial fever, and even though the physicians can tell from the symptoms with which clinical type and which stage of the cycle he is dealing, the examination of the blood enables him to predict events concerning which he would be absolutely in the dark without it. A numerical idea can be obtained of the infection, developing secondary groups, multiple species, resting bodies, latent infection, and effects on the blood can be detected, sometimes, indeed, it is possible to recognize the presence of another disease. It is important to recognize species, and since each of the three can give quotidian, tertian, remittent, continued and pernicious fever, latent infection and cachexia, no other method is open except examination of the blood. The differential leucocyte count is of diagnostic importance, and I am in the habit of showing it by three columns of 100 units each, the first representing the lymphocytes, the second the large mononuclears, and the third the polymorphonuclears.

Treatment of Malaria.

Dr. J. A. Witherspoon, Nashville, Tenn.: The treatment of malaria is divided into hygienic and medicinal. The room should be light, well ventilated and thoroughly screened. The patient should be in bed, and have a daily warm bath. The diet should be nutritious, the bowels should be kept regular, and large amounts of water should be taken. Quinin is the specific, and it may be given by mouth, by rectum, hypodermically, or intravenously. Internally the sulphate is best, hypodermically the hydrochlorid. In the intermittent forms 15 or 20 grains should be given from four to six hours before the chill is expected. The patients should be kept on small doses of quinin for at least two months, and on the seventh, fourteenth and twenty-first days the initial dose should be repeated. In the estivoautumnal variety calomel should be given in broken doses preceding the quinin, which is preferably given in acid solution. From 15 to 30 grains of quinin should be given in this way, in divided doses, during the twenty-four hours. Treatment should be continued from six to ten weeks after the attack. If anemia is marked, iron and arsenic should be given. In the pernicious types quinin should be given hypodermically or intravenously, from 10 to 15 grains of the hydrochlorid or the bisulphate every three hours until a dram is in the system at least four hours before the time for the chill to return. In malarial cachexia arsenic and quinin should be administered over a prolonged period. I am convinced that in all cases of this type a change of residence is necessary. When quinin could not be used I have obtained the best results with the tincture of eucalyptus. In certain cases splenectomy has been fairly successful.

Discussion on Malaria.

Dr. H. M. Folkes, Biloxi, Miss.: In my work I find practically only two methods of satisfactory administration of quinin—intravenously and in solution by mouth. In hospital work I give it altogether by the latter method.

Dr. D. Harvey Dillon, New Orleans: The dose of quinin in pernicious malaria is the amount required to produce its full physiologic action, and it is important that we should be able to tell when we have cinchonized the patient. In this form of malaria it is best administered hypodermically.

Dr. D. L. Wilkinson, Montevallo, Ala.: In the estivo autumnal type for some years I have used a combination of quinin, gelsemin, elixir of vitriol and capsicum, which seems to be almost specific when borne by the stomach. In the treatment of enlarged spleens and indurated livers in the chronic forms I have had very happy results by the use of the iodid of potassium and the muriate of ammonia.

Dr. C. S. Bel, New Orleans: I recall a female patient who died of pernicious malarial fever, and the plasmodium, besides being found in the blood, pericardium, meninges, and spleen, was also present in a seven months' fetus.

Dr. J. H. White, New Orleans: I think that not enough stress has been laid on the isolation of the individual patient. Some years ago I had charge of a hospital, thinking it was properly screened, but I found that one of my chronic patients who had not been out of the ward for a year contracted an estivoautumnal attack of malaria in the ward.

Dr. William Litterer, Nashville, Tenn.: I have found Dr. Krauss's method of showing the leucocyte count of distinct aid, although not uniformly correct. There are certain conditions in which the transition is so close that it is impossible to tell from the leucocyte count whether we are dealing with malaria or some other condition.

Dr. Victor G. Heiser, U. S. Public Health and Marine-Hospital Service: Does Dr. Witherspoon know of any patient with malarial fever, microscopically diagnosed, that recovered without any treatment whatsoever?

Dr. W. Krauss: In using quinin hypodermically, the solution should be dilute, a large syringe should be used, and the needle should be plunged in as far as possible.

Dr. J. A. Witherspoon: I am glad Dr. White mentioned the screening of the patient, because that is something which is sadly neglected in private practice. I have had patients go to the mountains and remain without treatment and recover. I do not agree with Dr. Thayer as to the hypodermic method. I have seen cinchonism produced by it repeatedly. The solution used should be very dilute, and the injection should be made in the lumbar region or the buttocks, with a large syringe. The intravenous method is all right theoretically, but very few physicians will use it in practice. Screen the patient, kill the mosquito wherever you can, and see that the quinin is properly absorbed; that is often overlooked. Give it a little too long rather than too short a time.

Anorexia.

Dr. George M. Niles, Atlanta: The cases I wish to deal with are those more pronounced cases of anorexia which are so perplexing in their management. It is not always easy to remove the cause. Lack of appetite associated with the wasting or suppurating diseases should be combated energetically. Nourishment should be administered often and in concentrated form. When anorexia is accompanied by foul taste and bad breath, a test meal should be ordered, and lavage used if indicated. When some mental condition is the cause it is important to employ every means of suggestion at our command. In some cases of anorexia rectal feeding may have to be employed to bridge over a crisis. Much aid may be obtained from drugs judiciously administered, as hydrochloric acid, pepsin, nux vomica, or the bitter stomachics. I believe that when we can consider the stomach as only one part of the alimentary tract, but reflexly in sympathy with every other organ in the body; when we can realize that, while stomach troubles affect the disposition, moody tempers also produce marked functional disorders of the stomach, and when we can add to medicinal and hygienic measures a well-considered force of psychic influence, we shall be able to control and cure 95 per cent. of these patients.

Serum Diagnosis of Syphilis.

Dr. William Litterer, Nashville, Tenn.: I examined 72 patients in whom syphilis could be reasonably excluded. All gave negative reaction, In 3 patients with tabes 1 was positive and 2 negative. In 6 latent cases the patients contracted syphilis from 10 to 15 years ago, and received the classical treatment. Two of these gave a positive reaction, the others were negative. The patient with primary syphilis (chancre showing *Spirochæta pallida*) gave positive reactions. Vigorous antisyphilitic treatment was at once instituted. In one week after treatment those with positive reactions gave no apparent evidence of attenuation. One month later the reactions in these 2 patients had nearly disappeared. Four patients with chancroid and 2 with gonorrhea gave negative reactions. In 7 patients examined before the appearance of secondary symptoms (in 3 the spirochete was found) 6 were positive and 1 doubtful. This reaction of Wassermann is specific. It is found in more than 85 per cent. of all patients with syphilitic manifestations. Diagnosis can be cleared up in those unfortunate individuals who go through years of their lives never knowing whether they have or have not contracted this dread disease. By such a method of diagnosis the great sociologic questions concerning the marriage of syphilitic patients, the detection of syphilis in wet nurses, etc., is of incalculable value. Lastly, it is of inestimable merit in the differential diagnosis in every department of medicine.

DISCUSSION.

Dr. William J. Butler, Chicago: An enormous number of presumably non-syphilitic patients suffering from various infections, and also others apparently healthy, have been examined with a view to determining whether this reaction would be found under any other circumstances than where the patient had syphilis, and almost uniformly they have proved negative. The few instances in which they have proved positive would well come under these probable luetic cases among the great number of non-syphilitic cases. This would seem to prove for clinical and practical purposes the specificity of the test. In manifest syphilis, that is, patients with skin manifestations, lesions of the mucous membranes, etc., positive results will be obtained from 95 to 98 per cent. of cases. It is remarkable how early this test will appear in syphilis. I have had ten patients examined before the appearance of secondaries, and in all the reaction was positive. This will be of some value to syphilographers when they are uncertain as to whether what appears as a soft chancre is accompanied by a hard chancre. In two such cases the test proved positive, and the patients subsequently developed secondary manifestations. In internal medicine, neurology, pediatrics, surgery, etc., I believe that this test becomes an exceedingly valuable aid to us. In the so-called latent cases of syphilis about 50 to 60 per cent. will give a positive reaction. It is presumed that this 50 per cent.of positive reactions would coincide well with the 50 per cent. of patients with syphilis which would show old visceral lesions of syphilis at postmortem. It is assumed on this basis that the test, when positive in every case, indicates activity of the syphilis, whether invading some internal structure or affecting the nervous system. As to parasyphilitics: in paresis from 90 to 100 per cent. will give a positive reaction. Such a high proportion, however, is not found in tabes, about 60 per cent. being positive. Patients under treatment with mercury and the iodids sufficiently long will not give a positive reaction, and it is assumed, from this and from the fact that the vast majority of patients with symptoms give the test that a positive reaction is a definite indication for treatment, irrespective of what the examination of the patient shows. Something can be told as to prognosis, but no clinician will rely absolutely on this or any other test in regulating his treatment, and will naturally resort to periodic treatment without the reaction, but the reaction is an invaluable aid in the control of treatment.

Dr. William Krauss, Memphis, Tenn.: If it were not for the extreme importance of a disease like syphilis so complicated a test would fall of its own weight, and probably it will do so anyway. All of these specific reactions against infections are more of an evidence that the individual is making a fight against the infection than they are evidence of the disease itself.

Dr. W. Litterer, in closing: In all probability this test will not be employed except in large medical centers, although I do not consider it so difficult as estimating the opsonic index. I believe that the reaction will be simplified. Dr. Varney, of Detroit, has used a modification of Klausmann's method by taking 1 c.c. of blood serum from a suspected patient and mixing with that a few drops of a 1 per cent. solution of taurin. This is set aside and a precipitate indicates a positive reaction. He has experimented with 205 cases, and found it positive in 94 or 95 per cent. He has never obtained a positive reaction from a patient who was not suffering from syphilis.

Practical Results in Philippines in Reducing Mortality by Elimination of Intestinal Parasites, Especially the Hookworm.

Dr. Victor H. Heiser, Public Health and Marine-Hospital Service: In Bilibid prison over 3,000 prisoners are constantly confined. From 1902 to 1905 there was an uninterrupted increase in the death rate until a mortality of over 200 per thousand per annum was reached. The sanitation of the prison was then transferred from the control of laymen to the Bureau of Health. Work which had for its object the relief of this condition was begun at once, overcrowding was relieved, sewage disposal improved, adjacent lowlands filled in, the sick placed under treatment more promptly, and other well-recognized measures were put into effect. The death rate in a few months' time fell to about 75 per thousand per annum, but further reduction seemed impossible. For a period of about six months every effort was made to lower it, but without succeess. A study of the hospital patients showed that they were dying with ailments to which they should not have succumbed. Their powers of resistance were evidently impaired. The habits of the natives of the Philippines suggested a remedy. The evidence pointed to some extraordinary drain on the system. There was plenty of food, but evidently imperfect nourishment. With a view to discovering the cause, a routine practice of microscopically examining the feces of every prisoner was inaugurated; 84 per cent. were found infected with intestinal parasites. Of these, 60 per cent., or 52 per cent. of the total number of prisoners, had hookworms, 59 per cent. had whipworms, 23 per cent. had amebas, and 21 per cent. harbored some other species of parasite. Over half of the prisoners were hosts for at least two kinds of worms. Active therapeutic measures were taken to rid the prisoners of the causes of these debilitating troubles, and the death rate fell to less than 20 per thousand. Some thousands of stool examinations made in the Philippines outside of Bilibid show that about the same percentage of infections may be expected among the general population. It is believed that the foregoing facts warrant the assertion that in countries where hookworm disease is prevalent its eradication will produce better results in diminishing the mortality than any one other public health measure which has yet been advocated.

DISCUSSION.

Dr. Martin Crook, Columbus, Ga.: In my work as county physician for the past three years I have come in contact with this disease more than any other in the class of people which it affects. It strikes me that when we have a disease that affects sometimes every member of a family, making them unable to work, except possibly one or two days a week, there is no method of computing its economic importance in the Southern States. I have not found it yet in the colored race, although I do not mean by that that they are entirely immune.

Dr. W. F. Westmoreland, Atlanta, Ga.: My experience with surgical cases has been that with some degree of frequency uncinariasis is a prominent factor in contributing to the surgical conditions. I am sure that in an appreciable percentage of cases the recognition of this fact and the examination of the feces will lead to a clearing up of symptoms which were unjustifiably attributed to the surgical condition or to an operation, and put these patients on the road to early convalescence.

Dr. William Litterer, Nashville, Tenn.: Several cases of uncinariasis have been reported from Nashville, and I have seen two cases in people who had never left Davidson county. In these cases the condition was first recognized by finding a marked eosinophilia.

Dr. William Krauss, Memphis, Tenn.: The physician who expects to make a diagnosis from eosinophilia is apt to go wrong. In malaria the spleen may or may not be enlarged, and in uncinariasis it is always contracted. But the only sure diagnostic point is a microscopic examination of the stools.

Dr. V. C. Heiser: I hope the Southern Medical Association will give all the influence which it undoubtedly has in the South to assist Dr. C. W. Stiles, of Washington, D. C., in the hookworm campaign which he is about to undertake.

Influence of Education on the Development of Women.

Dr. D. L. Wilkinson, Montevallo, Ala.: For eleven years I have been studying the educational problem from the standpoint of its immediate and remote effects on the development of women. During these years I have been physician for more than 4,400 college women between the ages of 14 and 21. While I am by no means convinced that all investigators are correct in their observations and deductions, I am of the opinion that many are right in attacking present educational methods as pernicious to well-rounded physical development, the highest mental attainment and stable nervous equilibrium. That it also predisposes to pulmonary disease and gynecologic troubles, there can be no doubt. Further, it adds its quota to victims of ocular disease. In the school of which I have charge there has been a college physician since its beginning, and every provision has been made for the care of the sick, but we have had many patients who probably could attribute their ill health to their college days, in spite of all our care. If this be true in a college under the daily supervision of a physician, what must be the condition in a college without any supervision?

(*To be continued.*)

NEW YORK ACADEMY OF MEDICINE.

Regular Meeting, held Nov. 19, 1908.

The President, Dr. John A. Wyeth, in the Chair.

Medical Service in a Modern Army in War, as Exemplified by the Japanese Army in the Russo-Japanese War.

Major Charles Lynch, M.D., U. S. Army, delivered this anniversary discourse:

During the Russo-Japanese War I served as military attaché to the legation in Tokio. My service comprised the last ten months of the war, nearly all of which time was spent at the front in Manchuria with the Second Japanese Army.

The reasons that enabled the Japanese to accomplish such noteworthy results may be considered under three heads—organization and administration, sanitation, and professional care of ill and wounded. Any medical department, in order to be efficient, must be sufficient in numbers to perform the work required of it. The Japanese were liberal in providing medical personnel; they found that they required 1 per cent. of medical officers and 9 per cent. of inferior medical personnel to the total fighting force. They recognized that quality was as important as quantity and offered inducements in pay and promotion sufficient to secure good men. The Japanese medical department had complete autonomy, while the Russian had not. The aid given the wounded consisted of regimental aid on the firing line, then at the temporary dressing station, then the dressing station, the field hospital, the transport department for patients, the stationary hospital, the line of communication hospitals, hospital ships, the receiving hospital at home, hospital trains, rest stations, reserve hospitals and convalescent camps. This was the Japanese organization.

At the battle of Mukden, the greatest on record, there being about 310,000 men engaged on either side, the Japanese losses were reported to be about 45,000 killed and wounded. Despite the fact that the battle lasted from March 26 until April 10, and despite the heavy fire of the Russians and the disadvantages of the weather, there were practically no wounded on the Japanese side who were not under shelter within twelve hours, and almost all were cared for in a much shorter time. Japan always provided adequate, though sometimes rough, means for the care of ill and wounded, while Russia provided comfortably at some points and at others left ill and wounded without food or attendance. Japan operated 20 hospital ships, and these were frequently loaded in two days at Dalny and started for Japan. Hiroshima was the principal hospital center in Japan and provided for about 70,000 patients and for 10,000 convalescents in the convalescent camp. These men had every comfort and care which their country could supply. In all previous wars, except the Franco-Prussian on the German side, the death rate from disease was greater than that from wounds. In the field army the Japanese reported 100 deaths from wounds to every 47 deaths from disease. While Russian statistics are worthless on this point, Russia's loss from disease was probably twice that of Japan.

Though the Japanese were generally successful in preventing diseases of known causation or methods of spread, they failed with beriberi. A soldier who returned home to Japan suffering from a preventable disease was made to feel by his family and friends that he was no credit to them or to his country. A commander in the Japanese army whose troops suffered to an unwarranted extent from disease was likely to be called on for an explanation. Personal hygiene was taught in all the schools of the line officers, even in the staff college, the highest officers' postgraduate school in Japan. The soldiers received their instruction from the medical officers of their regiments. Sanitary inspections were made by medical officers of all grades, and consequently sanitary faults could not escape detection and were promptly rectified before serious damage could result. The troops were examined monthly, the unfit weeded out, and communicable diseases promptly dealt with.

The Japanese provided well for the food supply of the army. The standard allowance of food daily was 2,580 calories. The prevalence of beriberi led to the substitution of one-third barley for that amount of rice during the winter of 1904, but so far as had been observed this had no effect on the disease. Practically all the water used by the Japanese was sterilized by one method or another; it was boiled whenever possible.

The habits of the Japanese soldier were good; drunkenness was almost unknown, and successful efforts were made to prevent the soldiers from cohabiting with the Chinese women, among whom venereal disease was common, by appealing to their love for their families and their country. Even in the field the soldiers seldom failed to take a daily hot bath. The Japanese recognized the possibility of infection from flies. As they could not prevent the flies from having access to fecal matter, they served food only immediately before it was to be eaten and covered their dishes immediately after washing them. For the prevention of diarrheal diseases an intestinal antiseptic was issued to the soldiers; this was a creosote pill and was given out in little tin boxes on which was written: "To defeat the Russians, take one pill three times daily." It is believed that this was an error, however. The Japanese might be said to have had one case of typhoid and dysentery to the Russians' six. Typhus, though prevalent in Manchuria, was rare in the army. Tuberculosis was uncommon, smallpox rare and other infectious diseases occurred only in isolated cases. The increase of beriberi during the war might be ascribed to the overcrowding of the barracks and other quarters which gave opportunity for the spread of the disease from man to man. The success attained was due to the practical application of recognized rules of sanitation.

The Japanese, successful as they are as organizers, administrators and sanitarians, can teach Americans nothing in the practice of medicine and surgery. They returned a large percentage of sick and wounded men to the ranks, however. The packet for first aid was too small, badly folded and easily contaminated in handling; later an improvement was made in this respect. The strength of an army is not measured by the number of men on its rolls, but by the number on the firing line. Unless the medical department of an army is so organized and administered the combatants on the firing line are given prompt attention, this line will soon melt away by unhurt men leaving to help their wounded comrades. Both in peace and in war the medical department of an army should guard against unjustifiable loss. The bad organization and administration of the medical department of the Russian army was undoubtedly one of the factors that contributed to its defeat.

If America wishes to profit by the experience of the Japanese we should recognize that we must have a strong framework of medical officers on which to erect a structure fit to bear the strain of war. The efficiency of the army medical department can be secured only by the creation of public interest and sentiment on the subject. In securing good sanitation we have greater difficulties to encounter than the Japanese had. The Japanese recognize that good sanitation depends, to a great extent, on the good teaching of personal hygiene to the individual officers and men. With them this is comparatively easy, as their war army, though far greater than their peace army, is made up from active and reserve lists of the regular establishment only, and all officers and men are consequently well instructed. America, on the other hand, has but a small army in peace which has to be augmented largely by absolutely untrained men, so that if America wishes to rival Japan in low morbidity rates she will have to teach hygiene outside the army. This can be done by good instruction in personal hygiene in the schools. This means the instruction of a people. It will benefit not only the army, but the entire public.

The army medical department in this country has already done much. The military forces are in a state of transition, but they are approaching logical organization. They have been hampered by lack of personnel; but they have succeeded in having passed "A Bill to Increase the Efficiency of the Medical Department of the Army." Since then it has been possible to devote more time in other directions.

Book Notices

INTESTINAL AUTOINTOXICATION. By A. Combe, M.D., Professor of Clinical Pediatry at the University of Lausanne (Switzerland) together with an Appendix on the Lactic Ferments with Particular Reference to Their Application in Intestinal Therapeutics, by Albert Fournier, Formerly Demonstrator at the Sorbonne, Paris. Authorized English Adaptation by William Gaynor States, M.D., Clinical Assistant in Rectal and Intestinal Diseases, New York *Polyclinic.* *Cloth.* Pp. 461, with illustrations. Price, $4.00. New York: Rebman Co., 1908.

An English translation of this book, which has marked a great step in advance in French literature, ought to find a warm welcome in this country. Combe is a past master in the art of dietetic therapeutics, and commands attention even from those who do not accept in full the theory of autointoxication. The object of his book is to make known his methods of treatment, the discussion of which occupies 202 pages, or almost one-half of the text.

The other part of the book is taken up by a detailed consideration of the "scientifically verified theory" of autointoxication, the distinct pathogeny of the condition, its symptomatology and prognosis. Combe limits his study to autointoxications produced by toxic substances derived from albumin. Thus he entirely ignores the results of the important researches of Finkelstein. Furthermore, to him autointoxication is only the toxemia produced by substances decomposed within the body by vital processes of the organism. He eliminates, therefore, all intoxications in which the toxic substances are formed outside of the body and also those in which the decomposition takes place inside the body but through the activity of microbes accidentally introduced from without. Whether the present status of biologic chemistry and our knowledge of the normal intestinal flora permits such sharply drawn limits may be open to discussion. At any rate, the subject to which Combe limits himself gives him sufficient material to fill more than one-half of the book. His chapter on the chemistry of toxic substances derived from the protein molecule is based on the researches of the German school, while in the discussion of experimental pathology he follows almost entirely the work of Charrin and his co-workers. The chapter is full of suggestions and gives a connected account of one of the most disputed topics of internal medicine. Complete reference to the literature, given throughout, ought also to prove stimulating for further research.

In the chapters on symptomatology and diagnosis Combe shows himself the wise observer of the individual case and the results of laboratory analysis. While to Bouchard, the founder of the theory of autointoxication, this was in most cases merely an expression of gastric dilatation, there exists for Combe a wealth of pathognomic symptoms which permit diagnostic interpretation. He is, however, not guilty of making systematized deductions from isolated findings, especially in regard to the excretions, as so many recent authors, the French, in particular, have done. He understands how to weigh critically and to apply individually. The direct observation of the patient himself has not less value than the result of chemical analysis. From this point of view his interpretations of the results of urinalysis are novel and suggestive. Here for positive deductions from the quantitative analysis he calls attention to the necessity of determining not only absolute quantities, but also the ratios between matters excreted. Bouchard's coefficient, stating the ratio between the amount of urea and the total residue, for him still denotes the vitiation of metabolism and insufficiency of nutrition in autointoxication, although he seems to place more diagnostic reliance on his own coefficient, indicating the ratio between aromatic bodies and total nitrogen, as a better measure of intestinal autointoxication.

The chapter on treatment will merit the closest study by American readers. Intestinal antisepsis and medicinal therapeutics in general are put into the secondary position which they undoubtedly deserve. The closest and most detailed attention is given in their stead to the alimentary *régime*. The lucid description of the grape cure little practiced here, the lacto-farinaceous régime, the use of yeasts, and especially of the pure cultures of the bacillus of Massol and the lactic acid bacillus, recommended by Metchnikoff, intestinal lavage and oleoclysms will merit careful study and stimulate useful application. Detailed recipes add very materially to the value of this work.

The translation is good, but by no means perfect. One is frequently shocked by misspelled words which ought to be avoided in a work of such importance. The dipthongs "œ" and "æ" are used with little discrimination; Kühne is Kuhne throughout the book, Homburg is Homberg, hyphomycetes are hypomycetes, lipolytic is lypolyptic, dyscrasic is dycrasic, a tubercle bacillus is a tubercular bacillus. In a revised edition such errors will, of course, be corrected.

Venoms, Venomous Animals and Antivenomous Serum-Therapeutics. By A. Calmette, M.D., Director of the Pasteur Institute, Lille. Translated by Ernest E. Austen, F.Z.S. Cloth. Pp. 403, with illustrations. Price, $5.00. New York: William Wood & Co., 1908.

Our knowledge of the constitution and physiologic action of venoms of various kinds has made great advances during the last fifteen or twenty years. The discoveries of Roux and Behring with respect to the toxins of tetanus and diphtheria immediately turned the attention of certain investigators to the promising field for fruitful work with venoms along the same lines as pursued so successfully in the cases of these bacterial toxins. Pioneer and pre-eminent in this special field of research, Calmette now presents in monographic form the chief results of the modern investigations on venoms, venomous animals and antivenomous serum therapeutics. The book takes up the subjects of the classification, description, distribution and habits of venomous snakes; the clinical and physiologic properties of snake venoms; antivenomous serum therapeutics; venoms in the animal series, and "documents" relating to the treatment of persons and animals with antivenomous sera. There are now special laboratories for the preparation of antivenomous sera in all countries in which venomous snakes constitute a formidable danger to human beings and domestic animals. The volume is rich in illustrations of various kinds of snakes and of the most important portion of their anatomy, the head. The work will be of service to all who are really interested in biologic research and especially so to physicians, travelers, naturalists and teachers in countries where poisonous snakes abound, on whom naturally falls the duty of popularizing information in regard to the new treatment among the indigenous peoples.

The Bone-Marrow. By W. E. Carnegie Dickson, M.D., B.Sc., Edin., F.R.C.P., Edin., Lecturer on Pathologic Bacteriology in University of Edinburgh. Cloth. Pp. 160, with illustrations. Price, $12.00. New York: Longman, Greene & Co., 1908.

This is an elaborate monograph on the structure of the bone-marrow in health and disease, with about 78 pages of text, illustrated with 51 microphotographs and a large series of beautiful water-color drawings covering twelve plates. The illustrations, which merit unstinted praise, are all the work of Mr. Richard Muir, the technician in the pathologic laboratory of the University of Edinburgh. The work consequently is in reality an atlas of normal and pathologic anatomy of the bone-marrow, and as such it will constitute a distinct landmark in the study of this important and generally but poorly understood and neglected tissue. The bone-marrow is the parent tissue of the red corpuscles and also of by far the greater part of the leucocyte series of the formed elements in the blood; therefore, when we consider the extreme readiness with which the marrow and its cellular offspring undergo variations, it is justifiable to assume with Dickson that a closer study of the marrow may throw added light on many phenomena of disease. Modern hematology has given us a number of valuable facts and it is high time that our knowledge of the changes observed in the circulating blood elements in various conditions should be more closely correlated than heretofore with a parallel knowledge of the fundamental changes in the mother tissue. Only in this way may we hope to secure a broader basis for a more penetrating and farther reaching interpretation of the blood changes readily determinable by the methods of blood examinations now so generally in vogue. That generalizations of great clinical importance will be reached as this study progresses can not be doubted. Dickson's work, being essentially morphologic, forms an introduction to the more detailed study of the bone-marrow in special diseases; it gives a good basis on which to start new investigations. Dickson points out there are indications that many diseases now regarded as primary bone lesions, such as osteitis deformans, osteomalacia and osteoporosis, in reality are results of changes in the bone-marrow incidental to reactions on its part to toxic substances introduced or manufactured in other parts of the body. If these diseases come to be looked at from this viewpoint, further investigations into their exact nature may prove more fruitful than the results so far secured. Some of the changes in primary blood diseases—leukemia, pernicious anemia—may also come to be regarded more generally than at present as part of the results of reactive processes in the marrow set in motion by hostile substances. Dickson points out, too, that severe secondary anemias may yet be regarded as the result largely of degeneration in the tissue of the bone-marrow. Destruction of the formed elements of the blood in many acute infectious diseases and other processes may lead to excessive functional activity in the marrow, which in turn undergoes exhaustion and degeneration followed by prolonged anemia. Here further and detailed study are indicated. Dickson's monograph will appeal to hematologists who are interested in the mother tissue of the elements they study so assiduously; and the illustrations are sure to call forth the admiration of all students of the blood and to quicken their wonderment and curiosity in regard to the bone-marrow and the mysterious processes that take place there.

Médicaments Microbiens: Bactériothérapie, Vaccination, Sérothérapie. Par Metchnikoff, Sacquépée, Remlinger, Louis Martin, Vaillard, Dopter, Besredka, Wassermann, Leber, Dujardin-Beaumetz, Salimbeni, Calmette; vol. xi, Bibliothéque de Thérapeutique publiée sous la direction de A. Gilbert et P. Carnot. Cloth. Pp. 400, with illustrations. Price, 8 francs. Paris: Librairie J. B. Baillière et Fils, 1909.

This volume is one of a series of twenty-five intended to constitute a library of therapeutics, and divided into three series, on the subjects, respectively of therapeutic agents, medications and treatments. The present volume deals with the microbic medicaments and covers vaccination, including the prophylactic and therapeutic inoculations of dead bacteria or bacterial products, and serum therapy. There is also a chapter by Metchnikoff on so-called intestinal bacteriotherapy, by which is meant the employment of diverse bacteria in order to antagonize certain possibly pathogenic microbes in the intestine. As the list of authors shows, many representative investigators have contributed to the book. The practicing physician who can read French will find in this volume a very satisfactory statement of the present condition of our knowledge of the subjects with which it deals.

Syphilis Osseuse (Syphilis Acquise). Par Louis Spillmann, Professeur agrégé a la Faculté de médecine de Nancy. Paper. Pp. 134, with illustrations. Price, $0.85. Paris: G. Steinheil, 1909.

In this treatise the author has left out of account lesions of the bones indirectly attributable to syphilis and has devoted himself to lesions of the bones, which are syphilitic by nature as well as by origin. The first four chapters consider history, etiology, and pathology, while the fifth is devoted to clinical studies of the syphilitic affections of the different bones. Diagnosis and treatment are then taken up. The book was produced under the inspiration of Professor Fournier, whose personal notes and collection of specimens Spillmann has been able to make use of. The twelve plates added at the end of the volume form in themselves a valuable collection of illustrations not hitherto published.

Tuberculosis in Massachusetts. Prepared by the Massachusetts State Committee for the International Congress on Tuberculosis, held at Washington, D. C., September, 1908. Edited by Edwin A. Locke, A.M., M.D. Cloth. Pp. 223, with illustrations. Price, Wright & Potter Co., 1908.

This volume was prepared by the Massachusetts State Committee for the last International Congress on Tuberculosis, as a supplement to the general exhibition presented at that congress. It includes an account of the work of the State Board of Health, state inspectors, communities and antituberculosis societies, together with a discussion of bovine tuberculosis, tuberculosis among the insane, among prisoners and industry, and a number of related topics. The book is well illustrated and presents a mass of information of great value to those interested in the subject of the prevention of tuberculosis.

Text-Book of Nervous Diseases and Psychiatry. By Charles L. Dana, A.M., M.D., LL.D. Professor of Nervous Diseases in Cornell University Medical College. Seventh edition. Cloth. Pp. 782, with illustrations. Price, $5.00. New York: William Wood & Co., 1908.

This edition differs little from its predecessors. It has been thoroughly revised and brought up to date, and additions have been made to the sections on histology of the neuron and on anatomy and physiology of the brain, the works of Sherrington, Grünbaum, Campbell and Horsley having made this necessary. A short chapter has been added on psychotherapy, but the subject deserves more attention than Dana has given it here. The chapters on neurasthenia and hysteria have been rewritten, and under the name "psychasthenia" is described the condition designated "phrenasthenia" in the previous edition. Obsolete matter has been deleted, so that the book is not materially enlarged.

Emergency Surgery. By John W. Sluss, A.M., M.D., Professor of Anatomy, Indiana University School of Medicine. Flexible Leather. Pp. 692, with illustrations. Price, $3.50. Philadelphia: P. Blakiston's Son & Co., 1908.

This is one of a leather-bound series of medical manuals and is of convenient size and shape to carry in one's pocket. It is well bound in flexible leather, copiously illustrated and printed on a good quality of paper. Without attempting to cover the general field of surgery, Dr. Sluss discusses the emergencies which the general practitioner is most apt to encounter. The works of Senn, Walshan, Treeves, Legar, Veau and von Bergmann have been copiously utilized. Many references to current surgical literature also appear. The book will prove of value to general practitioners who are compelled to do a certain amount of emergency work.

Diseases of the Nose and Throat. By Cornelius Godfrey Coakley, A.M., M.D., Professor of Laryngology in the University and Bellevue Hospital Medical College, New York City. Fourth Edition. Cloth. Pp. 604, with illustrations. Price, $2.75. Philadelphia: Lea & Febiger, 1908.

This edition is essentially like the preceding ones, except that it contains a chapter devoted to formulas which will be found convenient for the practitioner. Dr. Coakley treats his subject concisely and clearly and describes all the principal diseases of the nose and throat. The book is illustrated by 126 engravings, mostly taken from various well-known authors, and seven colored plates, those illustrating transillumination of the accessory sinuses being very good.

Aids to Tropical Medicine. By Gilbert E. Brooke, M.A., Cantab., L.R.C.P. Edin., D.P.H., F.R.G.S., Port Health Officer, Singapore. Cloth. Pp. 163, with illustrations. Price, $1.00. New York: William Wood & Co., 1908.

This is a good synopsis of what is known of the diseases of tropical countries, and will furnish information to those who wish an outline of those diseases, which, while frequently mentioned in current medical literature, are seldom seen in temperate climates. It contains an appendix in which is given the regulations of examining boards for diplomas in tropical medicine, such as are awarded by the universities of Great Britain.

Student's Handbook of Gynecology. By George Ernest Herman, M.D. (Lond.), F.R.C.P., F.R.C.S., Consulting Obstetric Physician to the London Hospital. Cloth. Pp. 544 with illustrations. Price, $2.50. New York: William Wood & Co., 1908.

In this book Herman has endeavored, by omitting explanatory, argumentative and speculative matter, references to rare cases, and descriptions of the less commonly performed operations, to condense his larger work and to present a small volume especially for students. The result is a volume of 535 pages, closely printed on thin paper, adequately illustrated and excellently arranged. It supplies concise information, without being that bane of the American medical school, the quiz-compend.

General Pathology. By Ernest Ziegler, Professor of Pathologic Anatomy and of General Pathology in the University of Freiburg in Breisgau. Translated from the Eleventh German Edition (Gustav Fischer, Jena, 1905). Edited and Brought up to Date by Alfred Scott Warthin, Ph.D., M.D., Professor of Pathology and Director of Pathologic Laboratory in the University of Michigan, Ann Arbor. Cloth. Pp. 781, with illustrations. Price, $5.50. New York: William Wood & Co., 1908.

Among text-books which may be regarded as authorities in medicine, that of Ziegler has reached a very high position. Ziegler's genius and industry were devoted to perfecting this book and keeping it abreast of the advance of knowledge. It was so successful that it reached the eleventh edition before Ziegler's death. In the present translation, edited and brought up to date by Dr. Warthin, it forms a work worthy of commendation. Although the German edition was written in 1904, the intervening years have produced so much investigation on so many subjects as to necessitate the interpolation of a large number of paragraphs in fine print, presenting the most recent results of work in pathology. The translation is well done; the illustrations are numerous and especially clear. A number of them consist of colored plates.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Success in Postgraduate Work.

The Rapides Parish (Louisiana) Medical Society reports that it took up the postgraduate course of study last May and has met regularly every Monday night since the work was begun. The secretary, Dr. J. L. Wilson, says:

> "The course of study has entailed on us a great deal of work, but we started out fully determined to keep up with it and we have done so. Recently our president asked Dr. Edmond Souchon, late professor of anatomy of the Medical Department of Tulane University at New Orleans, to furnish us with some anatomic specimens or dissections preserved with his special formula for preserving the muscles and tissues in their natural color. The doctor first wrote us that he would be unable to do so; a few days later, however, he wrote us that he had decided to preserve a subject, send it to us, and come himself, remain with us for a few days, and assist us by giving us demonstrations in surgical anatomy. We profited very much by Dr. Souchon's visit and the members of our society are under lasting and grateful obligations for his interest. We all feel that we have been greatly benefited by the postgraduate course. Every county society would be greatly benefited by taking up this study course. The visit of Dr. McCormack to our state and city was a great stimulus for us. His lectures were an inspiration to the members of the profession such as we have seldom received, and I am sure all those who heard him profited thereby."

Optometry in Drugstores.

The *Ohio State Medical Journal*, in its department of Medical Economics, November, discusses some phases of the optometry bills which have been introduced in various state legislatures and presents a new phase of the question. A Cleveland physician received an announcement from a local pharmacy stating that it carried a complete line of drugs, medicines, optical goods and drug sundries. The physician at once wrote to the druggist severing all business relations with him and adding: "It is bad enough that department stores maintain quack optical departments to the further detriment of human eyes. Drugstores at least have no excuse for entering this field." The editor of the department of economics, in commenting on the incident, says:

> "The optometry bill would give legal recognition and professional standing to this sort of imposition on the public confidence; it would establish false relations with medical standards and false assurance with the public. Without stultifying itself, the state can not establish two standards in the same branch of medicine. This bill (the optometry bill) puts a full-fledged physician with years of preparatory and scientific study and final qualification before the state medical board against a tradesman with six weeks of special study. . . . The state can not, in fairness to the profession or in the interests of the laity, lower present standards in ophthalmology. Nor will it do so if the legislator is properly instructed."

The persistent efforts that have been made along this line in the past two years should be carefully noted and understood by all physicians, especially by those interested in medical legislation or those making a specialty of diseases of the eye. In several states the endorsement of unthinking physicians or of sections on ophthalmology has been secured for such legislation, under the specious plea of protection of the public from "incompetent optometrists." (God save the mark!) There is no more reason why the state should protect the public against incompetent spectacle fitters than there is why it should examine and license manufacturers of crutches. The only object of such legislation is to give the "graduate" of some "college of optometry" who has enjoyed the inestimable advantages of a six weeks course of instruction, the privilege of hanging a handsomely engraved certificate of license in his shop window and thereby make the public believe that he has the endorsement of the state. Cults and isms heretofore have sprung up around methods of treatment. This fad seems to have developed around a single organ. If a milkman or a drygoods clerk can learn to treat diseases of the eye in six weeks there is no reason why he can not learn to treat diseases of the stomach or of the lungs in the same time. In fact, there is no reason why he could not select the particular organ of the body which seems especially attractive to him and disregard the parts of the body which he does not care to treat.

The whole proposition reduces itself to an absurdity and its ridiculousness should be impressed on the members of our legislatures so as to put a stop to such farcical legislation.

Department of Public Health—Women Take Action.

The Utah Federation of Women's Clubs, at its recent annual meeting at Provo, Utah, adopted resolutions approving the "proposed segregation, concentration, reference and transfer to one department of all matters or questions arising out of or relating to public health and sanitation."

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
Bowling Green, Kentucky.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Fourth Month—Fourth Weekly Meeting.

Dislocations of the Ribs.

Ribs.—1. Costo-vertebral, pathology, complications, diagnosis.
2. Costo-sternal, first seven ribs, diagnosis, treatment.
3. Costo-costal, eighth, ninth and tenth, causes, treatment.

Dislocations of Hip and Knee.

Hip.—1. Backward.—(a) Dorsal, iliac or ischiatic: direction of violence, injury to capsule, to ligamentum teres, rim of acetabulum, sciatic nerve, gluteal vessels, quadratus femoris, pyriformis and obturator. Diagnosis, adduction and flexion, inward rotation, shortening, trochanter. Treatment. Smith's manipulation (Bigelow). Stimson's method. (b) Everted dorsal. 2. Downward and Inward—(a) Obturator: Pathology, diagnosis, treatment. (b) Perineal: Differs from obturator, diagnosis. 3. Upward and Forward.—Suprapubic: Iliopectineal or pubic forms, central; diagnosis, method of reduction. 4. Upward (Supracotyloid or subspinous). 5. Downward (Infracotyloid).

Knee.—1. Forward. 2. Backward. 3. Lateral (inward or outward). 4. Dislocation by rotation. Diagnosis, complications, treatment.

Patella.—1. Outward. 2. Inward. 3. Vertical.

Dislocations of Ankle and Foot.

Ankle.—1. Sagittal.—(a) Backward:: Causes, pathology. (b) Forward: Diagnosis, pathology, treatment. 2. Lateral.—(a) Outward: Pathology, diagnosis, treatment. (b) Inward: Pathology, diagnosis.

Tarsal Bones.—Subastragaloid.—(a) Inward, (b) outward, (c) backward, (d) forward: Relations of astragalus, os calcis and scaphoid, and diagnosis in each form.

Metatarsals and Phalanges.

Monthly Meeting.

Diagnosis and Differentiation of Dislocations of Hip Joint.
Treatment of Tuberculosis of the Joints.
Diagnosis and Treatment of Complicated Dislocations.

Medicolegal

Various Points Concerning Insane Delusions and Demand of Change in Declaration as to Monomania.

The Supreme Court of Arkansas says, in Taylor vs. McClintock, that the test of testamentary capacity is necessarily the same, whether the insanity be attributable to dementia or insane delusion—paranoia. "Paranoia" is a term used by medical experts, alienists, and authors on medical jurisprudence to designate the form of insanity characterized by systematized delusions. A systematized delusion is one based on a false premise, pursued by a logical process of reasoning to an insane conclusion. There is one central delusion, around which other aberrations of the mind converge. The term "paranoia" takes the place of the "monomania" or "partial insanity," and includes all that was formerly meant by that word, but is considered a more accurate term to describe the peculiar form of delusional insanity.

It is unquestionably true that one may be possessed of a delusion concerning one subject, and yet be of sound mind on all other subjects, according to the weight of modern authority.

This delusion, which operates to defeat a will made under its influence, may be defined as follows: Where one conceives something extravagant and believes it as a fact, when in reality it has no existence, but is purely a product of the imagination, and where such belief is so persistent and permanent that the one who entertains it can not be convinced by any evidence or argument to the contrary, such a one is possessed of an insane delusion. The above is substantially the definition of Sir John Nichol in 1826 in the great case of Dew vs. Clark, 3 Add. Ecc. 79, and it is one that has been approved and followed by a majority of cases and text-writers ever since.

A delusion can not be predicated on any purely esoteric and abstract subject, for the reason that beliefs concerning such subjects are speculative, and could not be proved false.

Evidence is the means by which facts are proved. All evidence must be addressed to the sane mind. That which no sane mind would believe at all does not rise to the dignity of evidence; and a belief in something that no sane man could believe is evidence of insanity.

Evidence, in a legal sense, is external. It is brought into the mind through the senses, by the mental faculty of perception, and appropriated by the faculty of reason. Therefore, any evidence will produce some sort of impression or belief in the mind, correct or incorrect. It is a solecism to speak of a belief that is based on any evidence as an insane belief or delusion. A belief grounded on evidence, however slight, necessarily involves the exercise of the mental faculties of perception and reason; and where this is the case, no matter how imperfect the reasoning process may be, or how erroneous the conclusion reached, it is not an insane delusion. The legal requirements of a delusion were not met by the testimony of medical experts defining a delusion as "a belief, an idea, held by a person against such ordinary average information or experience as would to the ordinary average individual prove sufficient to cause him to give up the idea."

But not only were there apparently votes lacking to make the court hold, but Chief Justice Hill and Justice Battle protested against holding, that, as a matter of law, a person may be entirely sound mentally on all subjects or as to all individuals save one, and as to that particular subject or individual his mind may be so diseased as to render it impossible to say that he is of sound mind and is capable of reasoning and exercising a sound judgment in regard to the delusion.

This division of insanity into partial and total originated, judicially, the Chief Justice says, with Sir Matthew Hale, when Lord Chief Justice of England in the reign of Charles II. This great jurist did much for the laws of England, yet was not sufficiently beyond his generation to enforce the law against witchcraft (he was the last English judge before whom a person was convicted and sentenced to death for witchcraft). Still his division of sanity is followed by many courts and many alienists.

In view of the disagreement between learned doctors, it is not the province of the court to side with either. It is not a legal question; but the question of insanity is a question of fact, and the learned doctors may explain it in their own way according to their own theories to the satisfaction or dissatisfaction of the jury, but still the question remains with the jury to decide whether the particular person was sane or insane.

When scientists are agreed on these questions, it may be well for the courts to state the scientific conclusion; but when scientists are at large on it, it is not the province of the court to accept either theory, but to leave it, as all other questions of fact, to be determined in the particular instance. In the cases in this and other courts cited in the other opinion in this case, the scientific and legal definitions were accepted without question; but the evidence in this case showed, or tended to show, that the scientific world, or an important part of it, has departed from those theories, and the courts should not blindly follow precedents based on other data.

Claims of Special Surgeons Called in to Operate on Unconscious Fatally Injured Person.

The Supreme Court of Washington says that the plaintiffs in the case of Cunningham and another vs. Lakin were physicians and surgeons, of Spokane, who sued the estate of one Lakin for professional services rendered him during his last illness. It appeared that Lakin had been kicked in the head by a horse, sustaining fractures of various bones of the face and skull and severe injuries to the brain, from which he was rendered unconscious, in which condition he remained until several hours after being operated on by the plaintiffs.

An employé of Lakin who was assisting him in the work he was performing at the time he received said injuries, called a local physician who found that the only hope of saving the life of Lakin lay in a major surgical operation, could not procure the necessary equipment at any nearer place than Spokane, and he would require the assistance of skilful surgeons in the operation. All this he informed the nearest living relative of said Lakin, who was then assuming to represent him and had assumed charge of the management of his affairs. Then, being told to procure the services of skilful surgeons, and to have the operation performed, and to have rendered such professional services, care and treatment as might be deemed most expedient, said physician summoned the plaintiffs, who performed said operation and treated Mr. Lakin until his death.

The objection was raised that no contract of employment on the part of Lakin was shown for the services by the physicians, and no subsequent ratification or agreement to pay on his part after the services had been rendered. The Supreme Court concedes this, but holds that the right of the physicians to recover for the reasonable value of their services, under circumstances such as were shown here, does not rest on any contract with the injured person, either express or implied, but is recoverable by virtue of the statute. Services of the character here rendered are classed as expenses of the last sickness, and are given a preference right of payment over all ordinary debts out of the estate of the decedent. It is true that services of this character differ from administration and funeral charges, in that they are rendered during the life of the person on whose estate they are made a charge, but the necessity for their rendition is similar to that of the latter, and the law authorizing their payment can be justified on like principles.

Whether the charges made by the surgeons were reasonable was a question to be determined from the evidence.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

November 21.

1 *Possibility of Avoiding Conspicuous Scar Formation in Softened Tuberculosis of the Cervical Glands. W. Meyer, New York.
2 *Obstinate Vomiting, or the Personally Conducted Baby. W. P. Northrup, New York.
3 *Endothelioma of the Pleura. H. B. Delatour, Brooklyn, N. Y.
4 Locomotor Ataxia: A New Theory and Treatment, with Cases. L. N. Denslow, New York.
5 Pancreatitis: With Illustration of Crystals of Pancreatic Reaction, According to Cammidge's Test. M. R. Barker, Chicago.
6 Three Unusual Cases of Appendicitis. C. W. Trueheart, Galveston, Tex.
7 Malaria on the Isthmus of Panama. W. E. Deeks, Panama.

1. Tuberculous Cervical Glands.—Meyer praises Bier's method as a means of avoiding scars. The rubber bandage is worn 11 out of 12 hours and fluctuation watched and encouraged. A short cut is then made in the course of the neck fold. If muscle or fat overlaps the incision a small drain is introduced for from 24 to 30 hours. Otherwise the wound is left open and suction treatment started from 4 to 6 hours later by the cups which are used once daily for 45 minutes. Packings and injections are never used.

2. Obstinate Vomiting.—Northrup describes a case that leads to the following conclusions:

1. A nursing baby may vomit because its food enters the stomach too rapidly and consequently in too great quantities.
2. The cause of this overdistention may be sought in the large quantity of breast-milk, easy flow, large nipples, vigorous nursing.
3. The above conditions may be overcome by imposing mechanical obstructions, "drinking up-hill," being here suggested.

In the reported case, the successful position was, sprawling head downward and face downward over the mother's shoulder to the nipple, like a squirrel coming down a tree.

New York Medical Journal.

November 21.

8 *Nature of Carcinoma in General, and the Early Diagnosis of Gastric Carcinoma. J. M. Anders, Philadelphia.
9 Iron (continued). J. Knott, Dublin, Ire.
10 Four Hundred and Twenty-two Cases of a General Surgical Nature from the Surgical Service of Fordham Hospital. A. Nicoll, New York.
11 *Lipoma of the Kidney. O. W. H. Mitchell, Columbia, Mo.
12 *Study of Spores Developed at an Elevated Temperature. B. R. LeRoy, Athens, Ohio.
13 *Pulsation of Large Aneurisms, Nonexpansile, but Transmitted. S. Lange, Cincinnati.
14 An Adjustable Lens for Oblique Illumination of the Eyes. S. W. Newmayer, Philadelphia.

8. Abstracted in The Journal, Oct. 31, 1908, p. 1541.

11. Lipoma of the Kidney.—Mitchell says that as regards the etiology all the following views appear plausible, and in a broad classification should be included until proved to the contrary:

1. The congenital tumors may develop, (a) from fat with imbedded portions of the adrenal; (b) from fat at the hilum; (c) by metaplasia of connective tissue.
2. The acquired tumors may develop, (a) by metaplasia of the connective tissue; (b) by extension of fat tissue from the hilum into the interstitial tissue of the kidney. The last view (2,*b*) seems plausible, since the kidneys of fattened domestic animals show this condition to be present frequently.

12. Spores Developed at High Temperature.—LeRoy's paper is an answer to inquiries concerning his paper on "Etiology of Psoriasis" (*New York Medical Journal*, April 25, abstracted in The Journal, May 9, 1908, p. 1560). In it he describes the growth and development, motion, changes of form, etc., of the organism therein referred to. He adds that the first patient mentioned in his former article is now almost free from psoriatic eruption and he feels confident that he will be permanently cured.

13. Aneurism.—Lange points out that expansile pulsation is laid down in text books as an almost infallible pathognomonic sign of aneurism. He endeavors to show that an aneurism which is large enough to impinge on and impart its pulsation to the chest wall will not, as a rule, execute expansile pulsations, but will simply transmit pulsations from the blood current passing through it, or more often from the heart. The smaller aneurisms do execute expansile pulsations, but the pulsation disappears as the result of the accumulating clot, before the tumor is large enough to impinge on the chest wall and manifest its characteristic pulsations to the palpating hand.

Boston Medical and Surgical Journal.

November 19.

15 *Acute Gonorrheal Epididymitis; Operative Treatment. J. H. Cunningham, Boston.
16 *The Law and Medical Experts; Codes of Criminal Procedure of European Countries. C. G. Cumston, Boston.
17 Bursitis Subacromialis, or Periarthritis of the Shoulder-Joint. (Subdeltoid Bursitis) (Continued). E. A. Codman, Boston.

15. **Acute Gonorrheal Epididymitis.**—Cunningham discusses the etiology and characteristics of this condition, its pathology, prognosis, and symptomatology. He describes the usual method of treatment and urges operative interference, which, he says, brings the suffering to abrupt ending, arrests the acute process, and shortens the duration and the convalescence. It is simply applying the general surgical principle of drainage to the infected organ. He describes Hagner's technic, which essentially consists of a two-inch incision at the junction of epididymis and testicle, the opening of the tunica vaginalis and puncture of the epididymis with a sharp-pointed knife. If pus escapes the opening should be enlarged and washed out with a 1 to 1,000 solution of corrosive sublimate, followed by salt solution. A cigarette drain is used. A continuous catgut suture closes the tunica vaginalis and a lockstitch horsehair suture the scrotal skin. Moist bichlorid of mercury dressings and a scrotal support to testicle complete the process.

16. **Law and Medical Experts.**—Cumston discusses a recent criminal case in New York and summarizes the French, Austrian, Belgian, German and Spanish laws in relation to medical expert work.

Northwestern Lancet, Minneapolis.

November 15.

18 *Present Management of Smallpox in Minnesota. H. M. Bracken, St. Paul.
19 Course of Instruction for Sanitarians and Sanitary Inspectors. F. F. Wesbrook, Minneapolis.
20 Present Status of Smallpox in Minnesota. G. W. McIntyre, St. Peter, Minn.
21 Tuberculosis and Poverty. E. T. Lies, Minneapolis.

18. **Smallpox in Minnesota.**—Bracken recounts the steps which led up to the recent health ordinance in Minnesota, abolishing quarantine in smallpox and relying solely on vaccination. The ordinance came into effect in the midst of an epidemic of a mild type of smallpox. While the number of cases did increase during the first four months after the new regulations went into effect, the statistics of Minneapolis, St. Paul and Duluth, which remained under the old régime, made no better showing in the morbidity rates than the state did under the new regulations, so that the increase can not properly be attributed to them. In consequence of the objections raised by the health commissioner of Chicago the latter was asked to advise the Minnesota state board of all smallpox infections reaching Chicago from Minnesota. This was done, and three cases were reported, but inasmuch as one came from St. Paul and one from Duluth, which were under the old regulations, the new regulations for the state could not be held responsible. Bracken analyzes the sources of imported smallpox infections in Chicago, from January 1 to July 25, 1908. They numbered 36, one of which was from a district of Minnesota under the new regulations, and 35 from cities or states still practicing rigid quarantine for smallpox. Chicago, with its 47 infections, is also supposed to be under rigid quarantine supervision. The plan adopted by Minnesota has been followed by North Dakota, and is now under consideration by one of the western Canadian provinces and one of our western states; the latter case in a more radical form than that existing in Minnesota. The article concludes as follows: "On deliberate consideration of conditions the Minnesota State Board of Health feels that it has made no mistake in its new regulations unless it is that they are not sufficiently radical."

Dr. Robert Heng Library
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Surgery, Gynecology and Obstetrics, Chicago.

October.

22 *Principles on Which the Success of Surgical Treatment of Retrodisplacements of the Uterus Depends. R. C. Coffey, Portland, Ore.
23 *Operations of Ventrifixation or Ventrosuspension of the Uterus and Shortening the Round Ligaments. W. Alexander, Liverpool.
24 Scopolamin-Morphin Anesthesia. R. R. Smith, Grand Rapids, Mich.
25 *Hebosteotomy Compared with Other Procedures in Management of Labor in Contracted Pelves. J. Pfannenstiel, Kiel, Germany.
26 Perforating Wounds of the Uterus Inflicted During the Course of Intrauterine Instrumentation. A. P. Heineck, Chicago.
27 *Diagnosis of Duodenal Ulcer. B. G. A. Moynihan, Leeds, England.
28 Broad Ligament Plication for Uterine Retroversion. C. N. Suttner, Walla Walla, Wash.
29 Primary Implantation of an Ovum in the Pelvic Peritoneum. B. C. Hirst and N. Knipe, Philadelphia.
30 Primary Carcinoma of the Body of the Uterus. C. N. Ballard, Chicago.
31 *Immediate vs. Deferred Operation for Intra-abdominal Hemorrhage Due to Tubal Pregnancy. F. Krug, New York.
32 Puerperal Salpingitis. L. V. Friedman, Boston.
33 Delivery of the Fetal Head After Decapitation. J. C. H. Leicester, Calcutta, India.
34 Radical Operation for Cure of Oblique Inguinal Hernia. F. G. Connell, Oshkosh, Wis.

22. **Retrodisplacements of the Uterus.**—Coffey's paper is an elaborate study illustrated with colored plates and half tones. He arrives at the following conclusions: The ideal operation for retrodisplacements of the uterus consists in some form of operation which shortens the anterior fold of the broad ligament, at the same time temporarily utilizing the round ligament for its accompanying connective tissue, but which uses absorbable sutures and thus makes provision for complete recovery of the position and function of the round ligaments as soon as the sutures are absorbed.

23. **Ventrifixation.**—Alexander has never performed either ventrifixation or ventrosuspension, because he believes that all such operations are fundamentally opposed to Nature's plan. His *a priori* objections have been confirmed by numerous reports of serious results, and he has had within a few weeks of each other two patients in his clinic on whom such operations have been performed, and in whom such a distressful condition existed that the uterus had to be released. This afforded a full opportunity for seeing the anatomic, as well as the clinical, results of the operation. He reports the cases. In the first, a patient, the subject of some prolapse without other symptoms, was rendered miserable after operaiton by incontinence of urine and constant pain, far more serious troubles than she had previously suffered from. On operating Alexander found the internal relations of the pelvic organs entirely changed. The uterus hung awkwardly from the abdominal wall, with the fundus projecting backward, as an obstacle against which the intestines could beat, and the great omentum had numerous adhesions to the various parts in the neighborhood of the old scar. The corpus uteri was changed into a long cord. When the adhesions were removed and the round ligaments curtailed, the uterus assumed rapidly its normal shape, the symptoms disappearing as if by magic. A similar condition of things obtained in the second case. Alexander holds that for retroflexion the treatment most in accord with the economy of Nature is to straighten out the uterus to a natural shape and shorten the round ligaments externally. He maintains also, from his own practical experience, that the shortening of the round ligaments in prolapse, when associated with repair or advancement of the perineum, is permanently effectual even in very bad cases. He describes his procedure and gives the reasons why the method is so effective.

25. **Hebosteotomy.**—Pfannenstiel is convinced that hebosteotomy is a great advance in obstetrics, and that with proper technic and observance of indications, and without increased danger to the mother, we shall succeed in securing a considerable percentage of children that were lost by former methods of delivery.

27. **Duodenal Ulcer.**—Moynihan arrives at conclusions, of which the following is a summary:

1. The operative treatment of stomach disorders should be confined exclusively to those cases in which an organic lesion is present.

2. In cases of acute perforating ulcer, the perforation should be closed or the ulcer excised.

3. When a non-malignant lesion is discovered, the treatment appropriate to it depends on its position in the stomach.

4. If the ulcer be prepyloric or duodenal, gastroenterostomy should be performed.

5. The most satisfactory method of [illegible] posterior no-loop operation, with the al[illegible] of the bowels to the stomach.

6. Regurgitant vomiting occurs as a result of the "loop" operation, whether anterior or posterior. It is relieved almost certainly by an enteroanastomosis.

7. In cases of hour-glass stomach the surgical treatment necessary presents special difficulties on account of the frequency of a dual lesion.

He epitomizes as follows the surgery of benign disorders of the stomach and duodenum: In cases in which genuine organic disease of the stomach or duodenum has been present, and that treatment which his present experience would indicate as appropriate has been adopted, surgical measures have been attended with a small mortality, and the relief afforded has been complete and permanent. In cases in which the evidence of structural disease was insignificant or absent, the result has been indifferent or positively bad. The scope of such operations as Rodman's, the excision of the ulcer-bearing area, and of the excision of ulcers on the lesser curvature and toward the cardia, should unquestionably be broadened. Moynihan has been in error in several cases in resorting to gastroenterostomy instead of to the more radical and perhaps equally safe procedures.

31. Abstracted in The Journal, June 20, 1908, p. 2100.

Archives of Internal Medicine, Chicago.

October.

35 Salt Elimination in the Urine of an Individual with General Edema of Obscure Origin, Followed by Cure. H. C. Jackson and A. W. Elting, Albany, N. Y.
36 *An Unusual Paroxysmal Syndrome, Probably Allied to Recurrent Vomiting. T. C. Janeway and H. O. Mosenthal, New York.
37 Infection of Man by Dipterous Larvæ. N. C. Gilbert, Chicago.
38 Urinary Findings in a Series of Infants Suffering from Intestinal Infection. J. H. M. Knox, Baltimore, and J. C. Meakins, New York.
39 Ten Cases of Epidemic Cerebrospinal Meningitis Treated with Antimeningitis Serum. J. D. Morgan and W. W. Wilkinson, Washington, D. C.
40 Bacteriology of Acute Rheumatism. L. N. Loeb, Chicago.
41 *Clinical and Pathologic Study of a Case of Adams-Stokes' Disease. H. G. Beck and W. R. Stokes, Baltimore.
42 Tricuspid Stenosis, with Report of a Cure. W. W. Herrick, New York.
43 Inhibition of Pancreatic Activity by Extracts of Suprarenal and Pituitary Bodies. R. Pemberton and J. E. Sweet, Philadelphia.

36. Abstracted in The Journal, May 30, 1908, p. 1819.

41. **Adams-Stokes Disease.**—Beck and Stokes describe a case, which they illustrate with half tones and colored plates. The character of the attacks did not vary much, except in degree. Some were apparently much more severe than others. They were usually preceded by a distinct aura, which was in the form of sounds resembling the ringing of bells or music. This was associated with intense pain in the right side of the head and face. There were also spasmodic contractions of the muscles in this area. During this stage, the patient rose up in bed, grasped the right side of the face with the right hand and groaned. He soon afterward sank into unconsciousness, which lasted five to fifteen seconds. During this period the color of the face was an ashen gray; the lips were cyanotic and the breathing was slow, irregular, and stertorous. After returning to consciousness, the patient sank his head into the pillow and lay exhausted, with beads of perspiration on the face and extremities. In all the earlier attacks and the minor attacks during the course of the disease, unconsciousness was not complete and the other symptoms were not so marked. A record taken shortly after a series of seizures with syncope and convulsive movements shows a brief stoppage of the ventricles without any other associated phenomena. The tracing shows distinctly the acceleration of the auricular beat with a diminished contraction, a condition which usually precedes a ventricular pause. During the stage in which the auricular impulse was feeble, the ventricles contracted independently of the auricles, causing complete heart block. Finally, when the auricular rhythm became more regular and the force of the contraction stronger, every other beat stimulated the ventricles to contraction, thus producing a 2:1 rhythm. At autopsy it was found that the primary lesion in this case consisted in marked calcareous infiltration of the auriculoventricular groove and its surrounding muscular and fibrous tissue. This produced pressure on the bundle of His, causing extensive fibrous myocarditis with atrophy of the muscular fibers. These conditions must have interfered with the normal transmission of the muscular impulse from the auricles to the ventricles, thus producing the symptoms described in the paper.

Bulletin of the Lying-In-Hospital of the City of New York.

June.

44 An Epidemic of Pemphigus Neonatorum. H. J. Schwartz, New York.
45 *Case of Ectromelia, Associated with Other Deformities. G. W. Kosmak, New York.
46 [illegible] larged Wandering Spleen, Complicating [illegible] A. B. Davis, New York.
47 [illegible] Osteochondritis, Simulating Erb's Paralysis. T. H. Myers, New York.
48 *Injuries in the New-Born Produced by Attempted Artificial Respiration. W. A. Morgan, New York.
49 Four Successive Cesarean Operations on One Patient. A. B. Davis, New York.
50 Multiple Pregnancies in Double Uteri, with Report of Case of Uterus Didelphys Containing a Simultaneous Full Term Pregnancy in Each Uterus. C. F. Jellinghaus, New York.

45. **Ectromelia.**—Kosmak reports, with an illustration, a case showing entire absence of the upper extremities. The left eye is represented merely by a small hard globular mass. There is no upper lip, not a dimple indicating where the arms ought to appear on the shoulder-girdle; also other deformities. The author assumes that in this case we are dealing with an instance in which a lack of germinal substance is probably the etiologic factor in the production of the deformities.

48. **Artificial Respiration in the New-Born.**—Morgan points out that the methods of resuscitating new-born infants are by no means free from danger, if indiscriminately or carelessly used. He reports cases. He describes what he considers a very satisfactory method of treating asphyxia in the new-born. After delivery of breech the child should be immediately inverted and held in that position until respiration becomes deep and regular. If there is any evidence of foreign material in the throat the pharynx should be gently stripped in the direction of the chin, the oropharynx swabbed with gauze or wet cotton, and the contents of the nose squeezed out. Catheterization of the larynx is rarely necessary. A few sharp slaps on the buttocks will usually aid the desired result. If the condition is more serious, as evidenced by the general cyanosed appearance of the child and by the diminished heart action, which can be most readily ascertained by placing the finger on the cord, it should be separated from the placenta in order that the movements may be less restricted. The child must be kept warm constantly by immersing in hot water or wrapping in hot towels. While in the tub, Sylvester's method may be resorted to. Removing the child at intervals and sprinkling its body with cold water, powerfully stimulates respiration.' Mouth to mouth insufflation may be practised by resting the back of the neck on the edge of the tub and supporting the head with one hand, while pressing on the epigastrium with the other. Only the first of the expired air is to be used and the nose should not be compressed but left entirely open, in order that there may be free passage for any excess of air injected. Laborde's method may be used by an assistant at this time. The hypodermic injection of ether, camphor or whisky is beneficial at times.

Journal of Infectious Diseases, Chicago.

October.

51 *Rate of Multiplication of *Bacillus coli* at Different Temperatures. M. A. Barber, Kansas City, Kans.
52 *Value of the Agglutination Reaction and of Bacteriologic Methods in Diagnosis of Glanders. K. R. Collins, New York.
53 *Comparison of Practical Methods for Determining the Bacterial Content of Milk. P. G. Heinemann and T. H. Glenn, Chicago.
54 *Variability in the Diphtheria Group of Bacilli. H. M. Goodman, Chicago.

55 *Resistance of Embryonic Epithelium, Transplantable Mouse Cancer, and Certain Organisms, to Freezing with Liquid Air. H. R. Gaylord, Buffalo, N. Y.
56 *Chemistry of Anaphylaxis. H. G. Wells, Chicago.

51. **Multiplication of Bacillus Coli.**—By an ingenious method Barber has studied the reproduction rate at different temperatures of the colon bacillus. Reproduction begins at about 10° C., increasing rapidly to about 37°, where it reaches its maximum rate, with a generation time of 17 minutes. It maintains this rate nearly constantly until the temperature reaches 45°, when the rate falls rapidly. Hence it is not probable that any temperature of the body during fever is of itself high enough materially to affect the reproductive rate of pathogenic bacteria, at least not that of the colon bacillus.

52. **Agglutination of Glanders Bacillus.**—Collins concludes that positive agglutination of the glanders bacillus by horse serum in dilution of 1 to 1,000 indicates latent or active infection of the horse furnishing the serum; while in human cases agglutination with dilutions above 1 to 100 would undoubtedly indicate glanders.

53. **Determining the Bacterial Content of Milk.**—Heinemann and Glenn emphasize the fact that the bacteriologic and chemical examination of milk should be conducted with the special object of improving the whole milk supply of a community, and that naturally for this purpose the most accurate, scientific methods of examination are to be used. The article indicates certain improvements on the previous bacteriologic methods of milk examination.

54. **Variability of Diphtheria Bacilli.**—From extensive experiments Goodman reaches the result that the division of the diphtheria group of bacilli into several different species is probably not warranted and that all the forms that have been described under different names are simply variants of a single species, *Bacillus diphtheriæ*.

55. Commented on editorially in THE JOURNAL, Nov. 14, 1908, p. 1701.

56. **Anaphylaxis.**—Wells has studied certain phases of the chemistry of hypersusceptibility. He finds that egg albumin freed from other proteins of egg white sensitizes in doses as small as 1/20 of a millionth of a gram, fatally in doses of one millionth of a gram, and that the minimum lethal dose for sensitized pigs is about ½ a miligram, by intraperitoneal injections, and from 1/10 to 1/20 milligram when injected into the circulation. When so small a quantity of egg albumin is fatal to sensitized pigs he thinks it improbable that the injected protein itself causes death by liberating toxic substances on being split up. He regards it as more probable that if poisonous substances are produced they come from the cells of the intoxicated animal, or possibly the whole reaction may be different from ordinary intoxication. The minuteness of the sensitizing and intoxicating doses of pure albumin indicates further that in this particular protein the two agents, the sensitizing and the intoxicating, are either one and the same or different portions of the same molecules.

Southern Medical Journal, Nashville, Tenn.

October.

57 *Adenoids. G. C. Savage, Nashville.
58 Diagnosis of Sarcoma. W. A. Bryan, Nashville.
59 Renal Calculus. P. Bromberg, Nashville.
60 Pathology and Treatment of Chronic Prostatitis. W. C. Bryant, Atlanta.
61 *Malaria as a Cause of Purpura Hemorrhagica. W. H. Deaderick, Marianna, Ark.
62 Malaria, Its Prophylaxis and Treatment. C. Thorington, [illegible]
63 [illegible] from One Thousand Cases. W. M. [illegible]
64 *Strongyloides stercoralis*, with Report of Three Cases from Tennessee. C. E. Brush, Nashville.
65 Actions of Certain Drugs on Blood Vessels. J. B. Guthrie, New Orleans.
66 Extrauterine Pregnancy. J. Overton, Nashville.

57. **Adenoids.**—Savage discusses this condition, and, as regards treatment, holds that the curette and forceps, and even the finger, are not worthy of comparison with the Gradle adenotome. He describes the method of its use.

61. **Malarial Purpura Hemorrhagica.**—Deaderick remarks on the rarity of purpuric eruptions associated with genuine hemorrhages in malaria, and reports the case of a white woman who lived on a shanty boat in eastern Arkansas for three years. In the summer of 1907, during a series of chills, purpuric spots appeared all over the body, and hemorrhages occurred from the mouth and nose. The treatment consisted of a teaspoonful every four hours of an elixir containing 5 grains of calcium chlorid to the dram, besides an antimalarial tonic of strychnin, arsenic, iron and quinin. In two months she was practically well (though the spleen was still considerably enlarged) and has had no chills or purpuric symptoms up to date, the longest interval free from chills that she has enjoyed for several years.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

October.

67 Results of the Use of Antimeningitis Serum (Flexner) at the Johns Hopkins Hospital. F. J. Sladen, Baltimore.
68 *Three Cases of Fracture of the Femoral Shaft Treated by the Open Method. T. W. Huntington, San Francisco.
69 Fracture of the Femoral Shaft, with Illustration of a Splint. W. Moncure, Raleigh, N. C.
70 *Tuberculosis of the Bladder. W. Karo, Berlin, Germany.
71 *Treatment of a Case of Hysteria. T. A. Williams, Washington, D. C.
72 *Is Cancer a Disease of Locality? S. W. Dickinson, Marion, Va.

68. **Fracture of Shaft of Femur.**—Huntington reports three cases treated by the open method, that is, by stapling, or "the internal splint," as advocated in the paper by him (*Annals of Surgery*, September, 1908: abstracted in THE JOURNAL, Oct. 17, 1908, p. 1373) and reproduces what are practically the same conclusions. In this article he emphasizes the value of pulley traction in the adjustment of fractures during operation.

70. Published in the *Virginia Medical Semi-Monthly*, Oct. 9, 1908.

71. **Hysteria.**—Williams reports a case, in order to emphasize the importance of recognizing and appropriately treating manifestations which are very common. It shows the efficacy of skilfully conducted suggestion; but the length and difficulty of the treatment of the morale showed that the removal of symptoms is but palliative, and that the true psychotherapy of hysteria consists of the uprooting of the habits of mind due to faulty education, and in the replacement of these by readjustment of the point of view, combined with practice in the acts required to implant it firmly, along with pleasant emotional tone, among the habits of the individual. He indicates this difference in the application of therapy to the hysteric and psychasthenic, in that the latter wishes and seeks for counsel, support and direction, while the hysteric dislikes it at first, to become later only too willing a servant.

72. **Cancer.**—Dickinson reports the following facts in a paper read five years ago, but not previously published: About two and one-half miles east of Marion is a millpond of many years' standing, and around and near about are eight houses. About twenty-five years ago the patient in Case 1 died of cancer, his home being near the head of this pond. Not long afterward Patient No. 2 died of cancer of the breast. A few years later Patient No. 3 died of cancer of the lip and face. Some years later Patient No. 4 died of intercurrent disease, but had cancer of the breast well advanced. Patient No. 5 soon after died of cancer of the lip and face. Patient No. 6 is now confined to bed and if death does not come from some other cause must soon die of cancer of the breast. These people lived close to and around this mill pond on the Middle Fork of the Holston river, and all within a few hundred yards of each other. A few years ago iron ore was mined above them, the water being made muddy, and the people living in these houses all joined in getting an injunction to stop muddying the river, because it made their springs muddy. So it is fair to assume that the water used by them had some connection with the water in the pond and river. In addition to the above six cases, there have been three other deaths of people having cancer not far from this pond, and certainly two of the three frequented the mill at this pond for years and probably used this water. There are said to be now three other people with suspicious sores living in this vicinity, but the nature of these he can not affirm. He has since learned

of the death from cancer of the breast of another woman who lived for some time in one of the houses *near the pond;* also, of the three suspicious cases mentioned one patient has since died of cancer and another is well advanced in the disease. The author concludes: "However much this paper may point to the infectious nature of cancer, and away from heredity as a cause, it will be a failure if it does not suggest the importance of *general* practitioners collecting and publishing such clinical facts as may come under their observation, that they may serve as a basis and guide to laboratory workers; for these workers must explain in their theories the clinical facts of disease, before their conclusions can be adopted by our profession."

Wisconsin Medical Journal, Milwaukee.

October

73 *Practical Applications of Recent Studies in Physiology of the Digestive System W B Cannon, Boston

74 *Common Source of Nasal Hemorrhage in Persons Previously Healthy H C. Langworthy, Dubuque, Iowa

73. Abstracted in The Journal, Aug 8, 1908, p. 524.

74. Nasal Hemorrhage.—Langworthy emphasizes the following conclusions:

1 Most cases of nasal hemorrhage in persons previously in good health are due to a local pathologic condition within the nose, usually somewhere on the septum

2 No matter what may be considered an etiologic factor, immediate tamponing is the treatment of election in all cases where hemorrhage is severe Other treatment must be considered secondary

3 With careful inspection of the nasal chamber and discovery of the exact source of hemorrhage, posterior plugging can be dispensed with in most of the cases

West Virginia Medical Journal, Wheeling.

November

75 *Plea for Drainage in Abdominal and Pelvic Operations C. R *Ogden, Clarksburg*

76 Aseptic Operative Technic and Postoperative Treatment of Appendicitis T K Oates Martinsburg

77 Treatment of Typhoid C T Arnett, Clarksburg.

78 *Psychotherapeutics* J. B Kirk, Elkhorn

79 Beriberi. M T. Micou, Bluefield

75. Abdominal Drainage.—Ogden emphasizes the importance of cul-de sac drainage in the female, especially in cases in which there is the least suspicion of infection, tuberculosis, many adhesions to break up, in all pus cases, and in cases in which there is great traumatism to surrounding parts.

Bulletin Johns Hopkins Hospital, Baltimore.

November

80 Volume Curve of the Ventricles in Experimental Mitral Stenosis, and Its Relation to Physical Signs A. D Hirschfelder, Baltimore

81 Auricular Fibrillation, Paroxysmal Tachycardia, and the So called Auriculoventricular (Atrioventricular) Extrasystoles A. D Hirschfelder, Baltimore

82 *Placental Syphilis; a Study of Syphilitic Placentæ with Regard to the Presence of the *Spirochæta pallida* W O Pauli, Baltimore

83 Method for Complete Enucleation of the Tonsil J A West, Baltimore

84 Simplification of De Grandmont's Operation for Ptosis S Theobald, Baltimore

85 *Three Cases Illustrating the Relationship between Certain Diseases of the Blood and Sarcoma F G Bushnell, Brighton, England

86 Teaching of Physiologic Pathology at the University of Michigan F. P. Rous, Ann Arbor, Mich

87 The Tonsillar Ring and the Paranasal Sinuses as Portals of Entry of Infectious Diseases S Rosenheim, Baltimore

82. Placental Syphilis.—Pauli reports the results of a study at Johns Hopkins in which 825 placentæ were examined, 25 being diagnosed as syphilitic. Autopsies were held on 16 out of 25 infants, in 14 of which an anatomic diagnosis of congenital syphilis was made The conclusions to be drawn from this study of the subject are:

1 The *Spirochæta pallida* is rarely found in syphilitic placentæ, and then only after long and tedious search

2 The anatomic changes observed in the placentæ, are the result of toxins produced by the *Spirochæta pallida* in the fetal organs, and not the immediate effect of the organisms on the villi themselves

3 The placenta is not the nidus of infection The fact that the *Spirochæta pallida* is never found in the maternal portion of the placenta, but only in the blood vessels and stroma of the fetal villi, would suggest that the placenta offers greater resistance to the invasion of the organisms, which is probably due to the steady flow of antibodies or immune substances from the mother through the maternal circulation

85. Diseases of the Blood and Sarcoma.—On a study of three cases, Bushnell arrives at the following conclusions:

1 These cases afford evidence that the glandular enlargements and visceral deposits of leukemia are closely allied to lymphosarcoma and that pseudoleukemia and lymphadenoma possess the characters of malignant growths

2 In leukemia the lymphocytes may be regarded as elements of malignant character

3 In sarcomatosis, and sarcoma of the lymph glands, changes may occur in the leucocytes (in the presence of transitional cells)

4 No absolute distinction can be drawn between leukemia and sarcoma

Journal of Nervous and Mental Diseases, Lancaster, Pa.

November

88 *Occupation Neuritis of the Deep Palmar Branch of the Ulnar Nerve J R Hunt, New York

89 *Myasthenia Gravis Pseudoparalytica with Negative Pathologic Findings J. A Booth New York

90 *Trophic Hemiatrophy Complete T J Orbison, Los Angeles

88 and 89. Abstracted in The Journal, July 11, 1908, p 164

90. Complete Trophic Hemiatrophy.—Orbison has found only 6 cases in the literature He reports a case in detail and draws the following conclusions: The condition is a pathologic entity; its beginnings are prenatal in time; the etiologic factor is an unknown agent, possibly a toxemia in the fetal circulation, which attacks neuropathic individuals and selects the trophic elements, preferably of the left side, the symptoms are atrophy of the muscular structures (or a retardation of their growth), quickening of the muscular reflexes, with slowing of the electrical reaction time, and without affecting the tendon reflexes materially; asymmetry with accompanying spinal deflection

Mississippi Medical Monthly, Vicksburg.

November

91 *Senile Cataract Illustrating the Desirability of Reliable Ophthalmoscopic Examination made while a View of the Fundus is Still Possible M H Bell, Vicksburg

92 Puerperal Infection J O Gurney, Belzona

93 The Gall Bladder; Its Diseases and Treatment H M Folkes Biloxi

94 Nephritic Colic Synonyms: Renal Colic, Kidney Colic S L Knight, Hattiesburg

91. Senile Cataract.—Bell reports two cases which indicate very strongly the importance in senile cataract of possessing oneself, if posible, of the records of previous ophthalmoscopic examination. In the one case such a record would have added satisfaction and saved anxiety to the operator had he been able to be assured that the eye was healthy except for the opaque lens. In the other case the existence of previous records prevented a useless operation and the consequent depressing effect on the patient, and warns the surgeon that there is only one chance for securing vision, so that he may take certain precautions insuring more safety than he would were both eyes operable. The cases also show that glasses should not be fitted by any one unable to make and interpret an ophthalmoscopic examination unless normal vision, 20/20, is present in each eye separately with or without proper correcting lenses. In each case many different reading glasses had been fitted previously to the time a specialist was consulted In one case, fortunately, a record was obtained while still possible, but in the other case no examination had been made, leaving the examiner in much doubt and uncertainty as to just what condition was present behind the opaque lens The cases also point to the desirability of the general practitioners having the ability to use the ophthalmoscope in just such cases, as they are frequently consulted long before the patient goes to a specialist.

Albany Medical Annals.

November

95 **Address to Graduating* Class of Training School for Nurses of the Woman's and Children's Hospital, Syracuse, N Y H L K Shaw, Albany

96 The Parathyroid Glands W Kirk, Troy, N Y

97 The Guest, or Personal Experience of a Patient in a Hospital for the Insane, told by Herself (Concluded)

95. The Parathyroids.—Kirk says that the total removal of the parathyroids is followed by acute symptoms, tetany, and death, in many animals. In man their complete removal ushers in a set of nervous symptoms of a serious importance In removal of the thyroid it is often difficult to isolate the little bodies, even in careful dissection, in a field limited in size and partially obscured by hemorrhage and staining of the tissues in the operative field. Hence it is easily assumed that they may be sacrificed in spite of the most careful precautions taken to ensure their safety. There may be a secondary or accessory blood supply to these small bodies—which would explain the failure of tetany to develop in certain cases of bilateral thyroidectomy.

Vermont Medical Monthly, Burlington.

November.

98 *Tuberculous Faucial Tonsil. G. B. Sweeney, Pittsburg, Pa.
99 Adenoids and Catarrhal Disease of the Ear. N. C. Bullard, London, Eng.
100 Aid of the State Laboratory in Diagnosis and Treatment. B. H. Stone, Burlington.

98. Published in the *Denver Medical Times*, November, 1908.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

November 7.

1 *Massive Collapse of the Lung. W. Pasteur.
2 *Angioneurotic Edema as a Familial Cause of Sudden Death. A. J. Whiting.
3 Direct Examination of the Larynx, Trachea, and Esophagus by Brüning's Instrument. H. Tilley.
4 Venous Accommodation After Compression of the Superior Longitudinal Sinus by a Glioma. L. P. Phillips and G. E. Smith.
5 "Sutika:" The Puerperal Diarrhea of Bengal. F. Pearse.
6 Palliative Treatment of Inoperable Cancer. H. L. Drage.
7 The Royal College of Surgeons of England. H. Marsh.

1. **Massive Collapse of Lung.**—After discussing the mechanism of respiration, Pasteur points out that the expanding force of the diaphragm is exerted mainly on the portion of the lungs lying below the great fissures—that is, on the lower lobes—and a consideration of the cases in which the diaphragm has become paralyzed shows clearly what happens to the lungs when this expanding force is in abeyance. Respiratory paralysis is a comparatively frequent complication of diphtheria, and when the muscles of respiration are involved in this disease it is rare for the diaphragm to escape. He discusses a series of autopsy findings in such cases. There is nothing distinctive in the physical signs themselves, and it is often only by considering a case in all its bearings that a diagnosis can be made. The signs of the paralysis of the diaphragm are well known. Pasteur refers to one symptom which does not appear to have attracted notice. Exaggerated action of the lower ribs occurs, in his experience, in the majority of cases. and is one of the early indications of diaphragmatic failure. It is generally most obvious when the paralysis is well marked, and invariably disappears when function is restored. He discusses the probable causes of this phenomenon. The mechanism of massive collapse differs materially from that of patchy or lobular collapse. Massive collapse is essentially an active process, lobular collapse a passive one, for the former is brought about by the active exercise of the elastic property of the lung, while the latter is generally believed to be caused by a passive removal of the air from portions of lung which have been cut off by bronchial occlusion from communication with the external air. He concludes that if it has not been actually ignored, the importance of massive collapse has been underrated, while its clinical significance has been for the most part overlooked. Active collapse of the lung is generally caused by paralysis of the muscles which are the direct distenders of the lungs—the diaphragm and the intercostals—but there are strong grounds for believing that reflex inhibition of diaphragmatic movement may lead to the same result, and that this observation may throw some light on the nature of the postoperative lung complications.

2. **Angioneurotic Edema.**—Whiting describes three cases and gives a clinical picture of angioneurotic edema. He notes its markedly hereditary tendency and points to it as a familial cause of sudden death. In Great Britain and Europe, generally, males appear to be more frequently attacked than females, the reverse of the condition obtaining in America. The symptom-complex consists of more or less sharply localized edematous swellings, affecting the skin and subcutaneous tissues, the mucous membrane and submucous tissues, and possibly other structures. A frequent manifestation is the occurrence of periodical attacks of severe intestinal colic, with sometimes nausea and vomiting. The attacks have a cyclical tendency. The condition is allied with Raynaud's disease, intermittent hydrops of the joint, probably with erythromelalgia and acroparesthesia. In several of these diseases, edemas have shown themselves. It may be confused with atypical cases of urticaria. The prognosis as regards life is favorable, except in the throat and in the skin near the mouth, whence it might pass by extension to the throat. Not much can be expected from treatment in the absence of a definite pathology. Among drugs mentioned are iron, arsenic and strychnin when general indications call for them. Great improvement has been noted under quinin; nerve sedatives have not proved satisfactory, and nitrites have been of doubtful value. Nitroglycerin has proved useful. Whiting has seen clear benefit from dry thyroid substance. In throat attacks, dram doses of tincture of perchlorid of iron, repeated if necessary every twenty minutes, have given relief. Sucking butter proved of service in one case. In dangerous attacks intubation or tracheotomy is indicated. Patients subject to or threatened with attacks of edema of the glottis should constantly wear an actual or potential tracheotomy tube.

British Medical Journal, London.

November 7.

8 William Mitchell Banks: His Life and Works. H. Morris.
9 *Value of Chromocystoscopy in Diagnosis of Renal Disease. W. F. Brook.
10 Cystic Disease of Kidneys with Pyuria and Hemorrhages. T. Carwardine and G. P. Bletchly.
11 Torsion of the Great Omentum and Habitual Partial Reduction *en masse*. E. M. Corner and L. Grant.
12 *Cancer in Travancore, South India. W. C. Bentall.
13 Postanesthetic Acetonuria, with Delayed Excretion of Acetone, After Childbirth. N. C. Forsyth.

9. **Chromocystoscopy.**—Brook discusses as a means of renal diagnosis the introduction into the blood current of pigments which are excreted by the kidneys and the observation by means of the cystoscope of their elimination by the ureters. It is simpler and more quickly conducted than either method of collecting the urine from the two ureters for examination, and is free from the objections and fallacies from which these suffer. The use of the separator, moreover, is not satisfactory without a cystoscopic examination. Chromocystoscopy is applicable in enlarged prostate and many other conditions in which other methods can not be practiced. The author describes cases in which by means of chromocystoscopy such questions as the following could be solved as preliminary to operative measures: In a case of a man formerly the subject of vesical calculus, there was tenderness but no pain in the left loin. The urine was acid, but showed no pus or albumin. Phthisical symptoms appeared. A skiagraph showed two ill-defined shadows, one at either pole of the left kidney. The following questions required answering before deciding on treatment: 1. What was the condition of the right kidney? 2. How far was the left kidney disabled? 3. How far was the general condition dependent on the lung mischief, and how far on the disease of kidney? Chromocystoscopy showed heavy blue-black jets issuing from the right ureteral orifice and none at all from the left. From the examination and the above-mentioned symptoms and history, it was possible to supply the following answers: 1. The right kidney was in good working order. 2. The left kidney was physiologically destroyed and the pelvis blocked, so that no pus found its way into the bladder. 3. In spite of the existence of the lung disease, that of the kidney, namely, suppuration behind a blocked ureter, was quite sufficient alone to account for the general condition. Brook thinks that the method is deserving of more extended recognition and general application than it receives at present, and urges that it should be included in the routine course of examination of all renal cases before operation, and of all abdominal tumors when there is the smallest possibility of their being of renal origin.

12. **Cancer.**—In a summary of 1,700 cases of cancer occurring in Travancore, India. Bentall arrives at the conclusion that the frequency of cancer of the buccal cavity and its absence in the rest of the alimentary canal is suggestive of a local cause for the former and of absence of digestive causes in the latter. He suggests that in the Hindoo the inveterate

habit of betel chewing from childhood possibly indicates a cause, due either to mechanical irritation or to a medium suitable for the growth of a possible cancer germ.

Medical Press and Circular, London.

November 4.

14 Treatment of Syphilis. G. P. Meldon.
15 Examination of the Throat and Nose. J. MacIntyre.
16 Surgical Treatment of Exophthalmic Goiter. A. Hildebrandt.
17 Rise of the General Practitioner. A. F. Penny.
18 Carcinoma in Mice. C. E. Walker.

Clinical Journal, London.

November 4.

19 Medical Cases in Surgical Practice. C. B. Lockwood.
20 Value of an Exclusive Proteid Diet in Certain Digestive Disorders. E. Young.

Australasian Medical Gazette, Sydney.

September.

21 *Mental Diseases from a Sociologic Point of View. A. Davidson.
22 *Arneth's Classification of the Neutrophile Leucocytes and Its Application in Pulmonary Tuberculosis. F. G. Griffiths.
23 *The Shelf Operation for Movable Kidney. C. MacLaurin.
24 Signs and Symptoms [illegible] Doak.
25 Causation of Appendi [illegible]
26 Operation for Acute [illegible]
27 First Six Years' Work at the Queen's Maternity Home, Adelaide. T. G. Wilson.
28 Midwifery Statistics. A. A. Hamilton.
29 Anesthesia in Labor. F. S. Hone.
30 Case of Toxemia of Pregnancy. A. H. Gault.
31 Various Types of Influenza. E. W. K. Scott.

21. **Mental Diseases.**—From an investigation at Callan Park Hospital for the Insane, Sydney, Davidson finds that the three main causes, numerically, were, (a) intemperance in drink, (b) heredity, and (c) domestic trouble. In this last doubtless the first two played a large part. Other causes were venereal diseases, fevers, epilepsy, phthisis, and the human epochal conditions—puberty, etc. He discusses each of the three major causes in detail. He agrees with Thomson that inheritance is usually a general, not a specific predisposition, though there are some instances of apparently precise and specific inheritance, and that there seems little warrant for believing in the transmission of acquired nervous disease. He points out that there seems to be an affinity or attraction between families with a tendency to nervous diseases. He quotes Dr. Charles Williams' five rules for the guidance of physicians when asked for an opinion as to the advisability of marriage, which may be summarized as follows: 1, No person should ever marry another of weak intellect, or who has been certified as insane; 2, two persons should never marry with a family history of insanity on both sides; 3, even when the family history of insanity is on one side only, it is exceedingly unwise to marry; 4, first cousins should seldom if ever marry; 5, no one should ever marry a sufferer from chronic epilepsy, even of the mild type. Beyond giving advice, however, it is difficult to see what can be done, unless statesmen are bold enough to intervene, and declare such marriages illegal and the children illegitimate. Davidson draws a striking picture of the rapid maturity and decline of certain young highly strung nervous children, which results in premature decay, possibly even imbecility, and urges that the thorough examination of school children might check some of these conditions. He considers it desirable that chronic alcoholics in all classes of society should be placed under control, whether they desire it or not. Again, syphilis, owing to its destructive effects on the brain, must be recognized as one of the chief causes of insanity. Like alcohol, it does not finish its ravages on the person affected, but is a hereditary disease unto the third generation and probably of a much more virulent type. He champions its causative relation to general paralysis and explains the fact of districts existing in which syphilis is very prevalent, while general paralysis is exceedingly rare, by the absence in these districts of the exciting cause. The two are associated more in large business centers, seaports, and places generally where life is more or less energetic, and are less associated in quiet, peaceful and uneventful rural districts, and among people of an easy-going character. He urges that syphilis should be a notifiable disease and that public establishments for its treatment should exist and be made widely known. In regard to the treatment of early cases of mental disease, he urges a legal clause, such as exists in Scotland and England, which allows persons to become voluntary patients, with the right of leaving with so many days' notice of their wish. An examination of the results of this method of Glasgow shows: 1, That the recovery rate of voluntary patients is greater than that of certified patients; 2, that the duration of treatment is shorter; and, 3, that in only a few instances does certification become necessary. He urges that patients should be carefully classified and different hospitals be established for: 1, The criminal insane; 2, the epileptic insane; 3, the senile insane; 4, imbeciles and idiots, with school education or those slightly impaired mentally, who might earn a livelihood; and 5, for chronic patients who have become "hewers of wood and drawers of water," in the biblical sense, and for whom an agricultural colony should be established. Such classes of patients should not be hopelessly muddled together.

22. **Arneth's Classification of Leucocytes and Pulmonary Tuberculosis.**—Griffiths considers that Arneth's work has not received the attention it deserves. He summarizes it and describes the technic. In regard to the stain, he points out that Arneth is very emphatic that Ehrlich's triacid stain should be used, but Griffiths prefers Jenner's stain, a modification of Romanowski's eosin and methylene blue stain, with which Arneth does not appear to be acquainted. If Ehrlich's stain is used, one must be careful to secure Ehrlich's triacid *farbung* and not the *trifarblösung*, which is a different preparation and not at all suited for the work. While the labor of Arneth's method is great, it is not so great as that of an opsonic estimation, and has over the latter two great advantages: Arneth's method is direct and absolute; its object is to determine one aspect of the state of the patient's blood, and this object it achieves. The opsonic method is indirect and relative; by it we determine not the absolute opsonic power of the blood, but the ratio of the opsonic powers of bloods of two persons, or of the blood of one person (the patient) and of the mixed bloods of a number of persons. Moreover, the opsonic index of a patient's blood may be doubled or halved in a couple of hours as the result of food, exercise or emotion, and so one can never know what it is, but only what it was some hours previously, and by the time the observation is completed it may be something very different.

23. **Movable Kidney.**—MacLaurin says that the operation which he now does for movable kidney is simply the formation of a shelf beneath the viscus. An incision is made from the tip of the twelfth rib downward and forward, which is deepened by muscle-splitting; the peritoneum is pushed forward; the canary-yellow fatty capsule of the kidney is stripped off and removed from its attachment around the hilum; the kidney is brought to the surface, split up the middle and examined; if found normal it is sewed up again, the peritoneum and Zuckerkandl's fascia are sewed to the fascia covering the quadratus lumborum with interrupted sutures of chromic gut, and the wound is closed.

Dublin Journal of Medical Science.

October.

32 Clinical Reports of the Rotunda Hospital (continued). E. H. Tweedy.
33 *Is Our Climate Changing? Sir J. Moore.

33. **Continuity of Climate in History.**—Moore discusses comparatively the various existing temperature records in the British Isles, which cover more or less the period from A. D. 1337 to date. From the facts admitted, he concludes that, within the past six centuries at all events, no appreciable changes have taken place in the climate of the British Isles.

British Journal of Children's Diseases, London.

October.

34 Cervical and Submaxillary Adenitis in Convalescence from Diphtheria. J. D. Rolleston.
35 Treatment of Chorea. J. Burnet.
36 Two Cases Suggesting Relationship to Status Lymphaticus. O. Kauffmann.
37 *Factors in Causation of the Neuroses. W. Jordan.
38 Prognosis of Heart Disease in Children. D. Stanley.
39 *Certain Types of Feeble-Minded Children and Their Significance. W. A. Potts.
40 Treatment of Congenital Dislocation of the Hip. F. Barnes.

37. **Causation of Neuroses.**—Jordan asks the following questions: 1. Is the nervous system of any child so congenitally defective that in spite of proper treatment and education from the first the child must grow up neurotic? The answer he believes to be yes, though, apart from actual imbeciles, of very few. 2. Is the nervous system of any child so congenitally perfect that no illness or error of training can render it neurotic? The answer to this he believes to be no. Both answers emphasize the importance of the postnatal causes of neuroses, of which he particularly discusses the habitual constipation of infancy and childhood and septic tonsillitis of the follicular or lacunar type.

39. **Feeble-Minded Children.**—It has appeared to Potts for some years that there is a close connection between the type of a feeble-minded child and its origin. This is not unlikely, for the offspring of tuberculous and syphilitic stocks are readily recognized, and there is no reason why the different types of feeble-mindedness should not have a definite heredity. The type greatly influences the prognosis. He considers in detail the Mongolian type, holding that these are essentially unfinished children, born when the procreative powers are at a low ebb; the simple congenital type, which, in his experience, is pathognomonic of an insane or feeble-minded ancestor; the neurotic type, which he has little doubt is pathognomonic of an alcoholic heredity; and the moral defective, in which the guide to classification is the social conduct. This type exists and its recognition is important. On the other hand, the author's observations in prisons have convinced him that only very few of those found there can plead this abnormality as a justification.

Journal of Laryngology, Rhinology and Otology, London.

November.

41 *Results of the Application of Barany's Tests to Deaf Mutes. A. R. Tweedie.
42 Examination into the Condition of the Vestibular Apparatus in a Series of Cases of Deafness of Nonsuppurative Origin. N. H. Pike.
43 *Antral Disease in Relation to Special and General Surgery. H. Tilley.
44 *Researches on the Anatomic and Pathologic Conditions of the Maxillary Sinus in Relation to the Teeth. A. S. Underwood.

41. Published in the *British Medical Journal*, Oct. 10, 1908.

43 and 44. Published in the *British Medical Journal*, Oct. 22, 1908.

Glasgow Medical Journal.

November.

45 Headache and Ocular Treatment. F. Fergus.
46 Obstetric Diary of William Hunter (concluded). J. N. Stark.
47 Vaccine Treatment of Infectious Diseases: (a) Chronic Acne Vulgaris; (b) Infection of the Urinary Tract; (c) Tuberculosis (with Opsonic Charts in the Vaccine Treatment of Tuberculous Disease). J. Miller.

Bulletin de l'Académie de Médecine, Paris.

October 27, LXXII, No. 34, pp. 265-292.

48 *The Intradermal Tuberculin Reaction. C. Mantoux and Hutinel.
49 Simple Technic for Dosage of Gases in Coal Mines. (Dosage exact du formène (grisou) et de l'oxyde de carbone dans les mines de houille par des procédés simplifiés.) N. Gréhant.

48. **Intradermal Tuberculin Reaction.**—Mantoux introduces the needle almost parallel to the skin, aiming to reach the under surface of the derma, and then injects one drop of a 1 to 5,000 solution of Pasteur Institute tuberculin. The local reaction is extremely characteristic and the technic can be made uniform more exactly than with certain other methods. He reports his findings with the test on 326 adults and 47 children, and the results of much experimental research. The technic is free from the dangers of the ocular reaction and is much more reliable, he states, than the ordinary cutaneous test. The specificity and sensitiveness have been proved in the clinic by comparison with autopsy findings and with the results of other tests and by the findings of the test on 70 cattle, 23 swine, 4 goats and 6 lambs, a total of 103 animals. Positive findings indicate the presence of a tuberculous focus somewhere and negative findings indicate with approximate certainty freedom from tuberculosis except in the moribund and in persons with measles or smallpox or recently vaccinated. The intradermal technic may also prove useful as a guide in tuberculin treatment, showing the sensitiveness of the patient.

Presse Médicale, Paris.

October 28, XVI, No. 87, pp. 689-696.

50 *Position Differentiation and Treatment of Atony and Dilatation of Stomach. (La méthode du renversement latéral droit dans les diagnostic et traitement des gastrectasies atoniques.) P. Carnot.

October 31, No. 88, pp. 697-704.

51 Identification of Meningococcus in the Nasal Fossæ. Dopter and R. Koch.

November 4, No. 89, pp. 405-412.

52 Diet to reduce Proportions of Lime in Arterial Atheroma. (Régime décalcifiant dans l'athérome artériel.) M. Loeper and X. Gouraud.
53 Symptomatology of the Supraspinous Fossa: the Alarm Zone in Tuberculosis. (Séméiotique de la fosse sus-épineuse, zone d'alarme dans la tuberculose.) S. Chauvet.

50. **Diagnosis and Treatment by Change of Position of Dilatation of Stomach from Atony.**—As the patient stands, the atonic sagging stomach forms a low bag, the outlet of which, at the pylorus, is considerably higher than the level of the fluid contents in the stomach. If the patient then lies down on the right side, the fluid in the stomach flows down toward the pylorus, and if this opening is unobstructed the stomach soon empties itself. The splashing sound after an hour of erect position and its absence after the patient has been lying on his right side for an hour, help to differentiate the condition. The stomach may be able to evacuate its contents normally when they do not surpass a pint in amount, while a quart exhausts it completely. The stomach may also become transiently atonic during a period of worry or fatigue, regaining its normal tonicity afterward. These transient gastroplegias can be influenced frequently by appropriate therapeutic measures. Persons subject to them should refrain from loading the stomach so long as they have to be up and about, and should select food that will be promptly expelled, such as clear soups, with tapioca and beaten eggs, milk skimmed and sweetened with 1 gm. of sodium citrate to the quart, syrups and egg water. The more substantial meals should be digested reclining, in order to suppress the action of vertical pressure on the stomach, and to keep the pylorus at the lowest slope of the organ. The patient must recline on his right side, with the pelvis raised, lying down immediately after the evening dinner. If the raising of the pelvis is uncomfortable, it can be limited to an hour or so, commencing two hours after the meal. If other organs are involved in the ptosis, it is best to keep the patient in bed for a time to cure the reflex disturbances. Graduated motor and secretory gymnastics of the stomach by ingestion of increasing amounts of food—merely avoiding food with much waste—may have a very favorable influence. Recent research has shown that restriction of the diet has a tendency to increase the weakness of the stomach walls.

Revue de Gynécologie, Paris.

XII, No. 4, pp. 563-752.

54 Ulcerated Fibroma in Anterior Wall of Vagina. P. Hardouin.
55 Study of Uterovaginal Mucosa at Different Ages. E. A. Bjorkenheim.
56 *Psychic Disturbances in Ovarian Syndrome. Laignel-Lavastine.
57 *Cancer of Intestine and Foreign Bodies. (Cancer de l'intestin et corps étrangers.) J. Okinczyc and V. Combier.
58 *Anuria with Cancer of the Rectum. E. Papin.

No. 5, pp. 753-944.

59 *Immediate and Remote Results of Hysterectomy for Cancer of the Uterus. F. Jayle.
60 *Staphylococcus Infection of Genital Organs. H. Boshouwers.
61 *Inguinal Hernia of the Uterus. D. J. Cranwell.
62 Choice of Procedure in Radical Treatment of Inguinal Hernia in Adults. E. Forgue.
63 *Subphrenic Abscess. III. A. Catz and L. Kendirdjy. Commenced in No. 3.

56. **Mental Disturbances in Ovarian Syndrome.**—Lavastine discusses first the psychology at puberty. The mental confusion, melancholia or excitement, sometimes observed in girls and accompanied by other symptoms of ovarian insufficiency, such as headache and backache, asthenia and insomnia, is frequently cured by treatment with ovarian extract, thus testifying to the influence on the mental condition of the internal secretion of the ovary. The psychoses dependent on menstru-

ation are evidently of a toxic nature, as is demonstrated by their appearance at the approach and at the conclusion of the menses, by the toxicity of the menstrual flow and the increased toxicity of the blood at the approach of the menstrual period, and, further, by the benefit from ovarian treatment in the menstrual psychoses and also in others with exacerbations corresponding with dysmenorrheic periods. The thyroid may also play some part in the toxic syndrome; E Thomas has reported a case of menstrual psychosis with periodically recurring goiter, exophthalmos and ophthalmia. The psychic disturbances of pregnancy may be simple elementary troubles or actual psychoses; in some of the latter the pregnancy is merely an occasional cause; in others, of toxic nature, the pregnancy is evidently directly responsible for the psychosis. The mechanism varies in different cases, in some there is evidently ovarian insufficiency; others with thyroid or parathyroid symptoms and enlargement of the thyroid, along with eclampsia and tetany, may be the result of disturbances in these glands. Postpartum psychoses are generally of toxic origin and streptococcus or anaerobic infection is generally responsible, a few cases being attributable to autointoxication from insufficiency of liver and kidney functioning or thyroid disturbances. The ovaries may occasionally be incriminated along with the sudden loss of the placenta with its internal secretion and, possibly, disturbance from an internal secretion on the part of the mammary glands A tendency to lactosuria and compensating hypertrophy of the breasts seems to save certain women with insufficient thyroid functioning from myxedema; these cases sustain the assumption of an internal secretion. On the other hand, the ovaries are almost solely responsible for the psychic disturbances accompanying castration. The existing nerve balance in the women generally determines the severity of such disturbances. In women without appreciable nervous stigmata the psychic disturbances are generally elementary and yield readily to ovarian treatment, but in women predisposed by inherited or acquired taint, the psychoses are usually of the degenerate type, with the castration merely as an occasional cause, or else of the mental confusion type, toxic psychoses, of varying intensity. They can all be improved and some cured by treatment with ovarian extract. There are four types of acquired ovarian insufficiency: the nervous, congestive, nutritive and adipose. Congenital insufficiency is generally revealed by a suggestion of infantilism Hyperfunctioning of the ovaries may be responsible for erethism, local pains, neuralgia, congestions and hemorrhages, but the five groups of symptoms of insufficiency include beside the classic hot flashes" and tendency to congestions and hemorrhages, especially in the lungs, a tendency to obesity, modification in the genital sense and neurasthenia, with constant slight headache, buzzing in the ears, vertigo, frequent insomnia, nightmare, facial neuralgia, attacks of spasmodic suffocation, depression, palpitations, dyspeptic disturbances and modification of the mental state. The conditions in the menopause are essentially of the same nature as at puberty, with a tendency to sadness on account of encroaching age. The psychic disturbances characteristic of ovarian insufficiency are weakening of the memory, changes in character, irritability, even a tendency to hypochondria, ideas of suicide and general loss of energy with physical depression and nervousness—never actual psychoses.

57 **Intestinal Cancer and Foreign Body.**—Okinczyc and Combier report a case of a small cancer at the sigmoid flexure in which a prune stone was found imbedded. A foreign body arriving at a cancerous stenosis is liable to close the passage completely, the sudden severe occlusion from this cause being sometimes the first sign of the presence of the cancer. A number of such cases are on record, and the authors summarize some of them. The most remarkable is certainly Cruveilhier's case in which a woman presented long rebellious diarrhea, no occlusion, and at autopsy a cancerous stricture was found in the transverse colon and above it 617 cherry stones.

58 **Anuria with Cancer of Rectum.**—Papin reports a case personally observed and gives the details of four others that have been published in which anuria was a prominent complication of cancer of the rectum In the personal case described the anuria was the *first sign of trouble*. It persisted for five days and was accompanied by rebellious diarrhea and later by vomiting. The bladder and prostate were examined through the rectum, but the cancer involving the rectum and sigmoid flexure was not discovered. As a kidney stone was surmised, nephrotomy was done Papin urges examination of the ureters at autopsy in cases of rectal cancer, and remarks that uremia may be responsible for some of the symptoms in the terminal phase of these cancers. Anuria may result from direct compression of the ureters or from reflex action.

59. **Remote Results of Hysterectomy for Uterine Cancer.**—Jayle discusses 28 cases from his experience and states that the 5 patients with localized cancer of the body of the uterus have been cured for intervals of from 2 to 6 years, with the exception of one who died after the sixth year from unknown cause. Six with cancer of the cervix, without involvement of the broad ligaments, are in good health from one and a half to seven and a half years later. In 17 cases of cancer that had spread beyond the uterus, 5 of the women did not survive the operation and 9 succumbed within a year, while 3 are in good health from five to eight years since, and 3 have been lost trace of.

60. **Accidental Staphylococcus Infection of Genital Organs**—Boshouwers relates a case of this kind in which he was able to cultivate the *Staphylococcus pyogenes albus* from a suddenly appearing infectious process in the vagina of a young woman The same micro organism could be cultivated from the well water used for bathing, and two little girls in the family also suffered from a similar vulvovaginitis

61. **Inguinal Hernia of the Uterus.**—Cranwell recently found in a strangulated hernia an atrophied uterus with the adnexa on that side He reviews a number of similar cases from the literature, adding that five cases are on record in which inguinal hernia in males contained a rudimentary uterus or adnexa. In the presence of an irreducible inguinal hernia whose contents are hard and the shape suggests that of the uterus, it is important to palpate through the vagina to determine whether the uterus is actually involved. Hernia of the uterus is frequently accompanied by malformation of the internal genital organs If the contents of the hernia can not be reduced, it is best to remove the organ. Cesarean section was done in 5 cases in which the woman was pregnant, 4 of the mothers died and 1 of the children. In 2 other cases premature delivery was induced, with good results He gives the details of the 44 cases on record besides his own

63 **Subphrenic Abscess.**—In this third memoir Catz and Kendirdjy give the details of hundreds of cases, classifying and discussing the abscesses according to their location and etiology. The article is illustrated and presents a comprehensive study of abscesses of appendicular, gastric, duodenal, pancreatic, biliary, splenic, traumatic, tuberculous and thoracic origin, some of these types requiring much research on the part of the authors.

Revue de Médecine, Paris.

September, XXVIII, No 9, pp 765 860.

64 Subacute Form of Septicemic Phthisis L Landouzy and L Laederich
65 Theory of Aphasia and Dynamic Element (Doctrine de l'aphasie Comment je la comprends Rôle de l'élément dynamique) Bernheim
66 Curable Subacute Encephalitis in the Tuberculous J Lépine
67 *Serum Test for Syphilis in the Insane (Réaction de Wassermann et aliénation mentale) G Raviart and others

October, No 10, pp 861-940

68 Two Cases of Fatal Typhoid Probably Contracted at the Hospital and Following Close on Acute Articular Rheumatism Devic and Trouilleur
69 Attenuated Non suppurative Staphylococcemia J Carles
70 Clinical Study of Relapsing Fever. (Etude clinique sur le typhus récurrent) Lafforgue
71 Intestinal Microbian Flora in Infants. L. Margain

67 **Serum Test for Syphilis in the Insane.**—This communication confirms the differential value of the Wassermann test as the findings were positive in the syphilitics and in those with general paralysis and negative in the others, with scarcely any exceptions The tests were made on the 400 inmates of the insane asylum at Armentières.

Semaine Médicale, Paris.

November 4, XXVIII, No. 45, pp. 529-540.

72 Proportion of Active Principle in Certain Drugs Prescribed in Various Forms. (Teneur comparée en principe actif de quelques médicaments chimiques.) P. Chapelle.
73 *Can Operation be Done for Extrauterine Pregnancy During Shock? (Peut-on opérer les grossesses extra-utérines durant la phase de shock?) R. de Bovis.
74 *Diagnostic Significance of Antitryptic Power of Serum. (Le pouvoir antitryptique du sérum a-t-il une valeur diagnostique?) L. Ambard.

73. **Immediate Versus Deferred Operation for Ruptured Tubal Pregnancy.**—The conclusions drawn by de Bovis from the evidence at hand to date are that it is not necessary to wait for the subsidence of shock before operating for ruptured ectopic gestation. The cases in which the hemorrhage becomes spontaneously arrested and those in which the forces are at such a low ebb that the slightest traumatism is fatal, are extremely rare. He advises early but not precipitate intervention except when the environment or other conditions contraindicate it, but warns that this does not mean that any physician at any time should feel justified in operating in case of ectopic pregnancy. The hemorrhage is usually slow and gradual, and there are thus a few hours at the physician's disposal to combat it. This is no reason for wasting time, for minutes count in hemorrhage, but it is a reason for not assuming too soon that the situation is desperate.

74. **Diagnostic Significance of Antitryptic Power of the Serum.**—Ambard discusses the property sometimes possessed by the serum to inhibit the action of trypsin and thus check digestion by the pancreatic juice. This antitryptic power was found especially pronounced in cases of cancer, and it was assumed for a time that it was pathognomonic of cancer, but later research has demonstrated this antitryptic power in a number of diseases and even in apparently healthy persons. He states that the proportion of pancreatic secretion found in the stools after a purge, by dosage of the fecal amylase, was nearly twice the normal proportion in two cancer patients. Other observers also have recently pointed out that the antitryptic power of the serum is much enhanced by injection of trypsin in animals and ingestion of pancreatic extract in man. Ambard concludes that the increased antitryptic power in all conditions is a sign of hyperfunctioning on the part of the pancreas. Lack of pepsin and a compensating hypersecretion on the part of the pancreas form a common link between cancer cachexia, nephritis and other conditions in which the antitryptic power of the serum is increased. The latter is thus an indication of excessive functioning on the part of the pancreas and thus proves a means of obtaining an insight into the workings of that organ.

Correspondenz-Blatt für schweizer Aerzte, Basle.

November 1, XXXVIII, No. 21, pp. 681-712.

75 Pharmacology of Bromin. (Pharmakologie des Broms und seiner Verbindungen.) E. Bürgi.
76 *Oil in Treatment of Stomach Affections. (Therapeutische Erfolge der Oel-Therapie bei Magenkrankheiten.) L. Rütimeyer.
77 Explorative Laminectomy and Circumscribed Serous Meningitis. C. de Montet.

76. **Oil in Treatment of Stomach Affections.**—Rütimeyer reviews *the history of systematic treatment* of stomach affections with oil, and describes his own experience with 100 cases. In some cases of hypersecretion and hyperacidity, with or without neurasthenia, the secretion was reduced when 30 gm. butter or 100 gm. warmed oil was taken fasting in the morning. In another case of threatening postoperative spasm of the pylorus, with extreme dilatation of the stomach, 100 gm. of oil poured into the stomach each morning, with lavage of the stomach twice a day promptly cured the spasm. In one case a merchant of 41 presented signs of chronic ulcer and spasm of the pylorus with excessive secretion and intense pains; only partial and transient benefit was obtained during two years of various measures. The old troubles returned at every excessive effort or excitement or dietetic error, and finally an operation was proposed. A systematic course of oil was instituted as a last resort, with brilliant success. The patient rinsed out his stomach every morning and then took 100 gm. of oil, and in two weeks the pains and spasms had vanished. The man gained rapidly in weight and was soon able to eat any ordinary food. During the five years since he still occasionally takes a little oil after some gross dietetic error, and it promptly relieves any slight disturbance. The most striking benefit of the oil treatment is in its influence on the subjective disturbances. The oil banishes the pain and restores the earning capacity, even although the objective findings may occasionally persist unmodified.

Deutsche medizinische Wochenschrift, Berlin.

October 29, XXXIV, No. 44, pp. 1881-1920.

78 *Prognosis and Treatment of Vasomotor-Trophic Neuroses. Cassirer.
79 Structure of Cerebral Cortex. (Aufbau der Hirnrinde.) H. Vogt and P. Rondoni.
80 *Polycythemia and Blood Pressure. (Polycythämie und Blutdruck.) S. Möller.
81 *Genealogical Tree of a Cataract Family. (Stammbaum einer Starfamilie.) Crzellitzer.

November 5, No. 45, pp. 1921-1968.

82 *Comparative Pathology of Tuberculosis. (Zur vergleichenden Pathologie der Tuberkulose.) O. Lubarsch.
83 *Clinical Reliability of Serum Test for Syphilis. (Klinische Verwertbarkeit der Komplementbindungsreaktion für die Serodiagnostik der Syphilis.) F. Ballner and A. v. Decastello.
84 *Biologic Principle of Radiotherapy of Cancer. (Das biologische Prinzip der Lichtbehandlung des Krebses.) E. Diesing.
85 Aneurism Impeding Supply of Blood to Brain and Arms. (Mangelhafte arterielle Blutversorgung des Gehirns und der oberen Extremitäten bei Aneurysma arcus aortæ.) T. Rehberg.
86 *Prognosis and Treatment of Puerperal Infection. M. Henkel. Commenced in No. 44.
87 Caffein-free Coffee. (Coffeinfreier Kaffee.) E. Harnack.

78. **Prognosis and Treatment of Vasomotor-Trophic Neuroses.**—Cassirer discusses Raynaud's disease, erythromelalgia, sclerodermia, sclerodactylia, and Quincke's transient angioneurotic edema. All these affections are functional nervous disturbances, and all have a similar course with a tendency to recur with latent intervals. The prognosis is favorable in so far as there is seldom transition into an organic nerve or other trouble. At the same time the affection may recur at intervals for years and decades. There is also a close connection between these and other functional neuroses, neurasthenia and hysteria. The prognosis must therefore be guarded, as even if the vasomotor disturbance subside, complete restoration is rare. Treatment should aim first to avoid all causes that may induce the disturbance, cold water, handling cold damp articles and overexertion. In several cases of Raynaud's disease, Cassirer obtained good results with local hyperemia, winding the upper arm with a flannel bandage to induce venous stasis. This was done daily for half an hour during several weeks. This measure failed, however, in very severe cases. He is inclined to accept some connection between these neuroses and the arthritic diathesis. In the angioneurotic edema, regulation of the diet and of the bowels has often aided in the cure. Quinin and atropin may also prove useful, as well as arsenic. Especially disagreeable are the neurotic gastric symptoms, resembling the gastric crises of tabes, and sometimes so severe as to require morphin.

80. **Polycythemia and Blood Pressure.**—Möller concludes from his own experience and study of the literature that there is no direct connection between high blood pressure and the *number of the blood corpuscles. Examination of 35* patients with a blood pressure of 180 mm. mercury and above, showed that only two of the patients had an unusually large proportion of red corpuscles.

81. **Family Tree for Studies of Heredity.**—Crzellitzer gives some examples of a method of making out a family tree which is simple and very instructive. The male members of the family are represented by small squares and the females by circles, cross bars in the squares or circles showing the members of the family affected with the special feature being studied. Name, date, age, etc., can be written in each square or circle.

82. **Comparative Pathology of Tuberculosis.**—Lubarsch has been examining *the calcified foci* in human cadavers and in animals. He found tubercle bacilli still infectious in certain isolated, totally calcified foci in men, cattle and pigs, but this was very rare in human beings, while it was almost constant in cattle and in swine. He accepts this as evidence that the calcification process has a more curative tendency in man than in animals.

83. **The Serum Test of Syphilis.**—In the research described, special attention was paid to whether or not positive findings could be obtained with persons who were apparently entirely free from syphilis. This was the case in 17 out of 107. In several of these cases, however, the complement binding was transient. Blood from cattle, instead of sheep blood, permits a reaction exclusively specific for syphilis to be differentiated from a non-specific reaction which may be observed in various other affections.

84. **The Biologic Principle of Radiotherapy of Cancer.**—Diesing regards the pigment in the skin which forms under the action of sunlight as the preliminary stage of hematin, and thus of great importance for the metabolism. The ultraviolet rays stimulate these pigment-producing cells to functioning, and excessive stimulation is liable to lead to malignant proliferation. Light can thus induce the production of cancer, he says, but it can also cure cancer when applied in the form of Roentgen rays. He advises scarifying the skin over the cancer, opening up as many entering points for the Roentgen rays as possible. After removal of a cancer the part should be thoroughly treated with the Roentgen rays to destroy as many as possible of these pigment-producing cells below the site of the cancer. He is certain that the proportion of permanent cures will grow much larger when this is done as a routine measure.

86. **Treatment of Puerperal Infection.**—Henkel concludes his long article with the statement that serum treatment is unreliable in severe cases of puerperal sepsis and pyemia. They require unconditionally surgical measures; only by this means is there a chance to combat the consequences of severe puerperal infection. Early extirpation of the uterus is required for puerperal sepsis, and ligation of the thrombosed veins, at the right time, in puerperal pyemia. The Trendelenburg and Bumm technics are the only ones for the latter, and he prefers Bumm's transperitoneal method on account of its simplicity and the ample oversight it allows. The ovarian vessels are ligated and excised, the stumps cauterized with the actual cautery, the iliac vessels are ligated and the sheets of the peritoneum are sutured. The crucial point is the decision as to the proper moment for operating. This is when the thrombosed vein can be distinctly palpated, eventually under general anesthesia. No operation should be attempted, he says, if an exudate has formed around the thrombosed vein, as in this case streptococci are already present in the infiltration and a transperitoneal operation is too dangerous. In dubious cases the general anesthesia is of great importance, as it allows the normal tubes and ovaries to be palpated and thus to be excluded from the clinical picture. Analysis of the unsuccessful cases on record shows that the operation came too late. It is important to seek for a middle iliac vein; one is sometimes found between the external and internal iliac veins. He reports an instructive case, another to add to the "too late" category. Intervention a little earlier might have saved the patient.

Medizinische Klinik, Berlin.

October 25, IV, No. 43, pp. 1633-1668.

88 *Industrial Morphin Poisoning. (Die gewerbliche Vergiftung der Haut durch Morphin und Opium.) L. Lewin.
89 *Symposium on Pernicious Anemia. von Noorden and Strümpell.
90 *Hysteria and High-Frequency Electric Currents. (Hysterie und Hochfrequenzströme, nebst Bemerkungen zur Pathogenese der Hysterie.) M. Kahane.
91 *Advantages of Zinc Gelatin Dressings in Surgical Affections. H. Hecker.
92 Roentgen Diagnosis anc [illegible] Upper Air Passages. (Weitere Mitteilunge [illegible] und-Diagnostik in den oberen I [illegible]
93 Complement-Binding Te [illegible] Meningitis. W. Schurmann.
94 Results of Experimental Research on Heredity. (Einige Ergebnisse der experimentellen Vererbungslehre.) E. Baur.

88. **Industrial Morphin Poisoning.**—Lewin's patient was a man of 64 who had worked for thirty-four years in a chemical factory, for the last twenty-five years being engaged in the making of apomorphin. Last August he was employed in the morphin room, and had occasion to wash some cloths which had been used for filtering morphin. His hands itched at once and a severe dermatitis developed on the arms, resisting all treatment for two years; he died before the close of the third year. Lewin testified that the case was a classical example of an industrial poisoning accident and the family was awarded an indemnity.

89. **Pernicious Anemia.**—Continuing this symposium on pernicious anemia, von Noorden says that about 40 or 50 per cent. of the cases terminate in recovery, and that even the malignant cases have remarkable fluctuations. He has found arsenious acid the most reliable drug, and remarks that the patients need warmth, sunshine and fresh air. Mountain climate has done harm rather than good in his experience. Strümpell ascribes great importance to the differentiation of pernicious anemia from latent cancer of the digestive tract, and thinks that this is possible by determination of megalocytosis and the higher color index. Both these are processes of compensation which are nearly constant with pernicious anemia, while they are exceptional with secondary carcinomatous anemia. The discovery of megaloblasts speaks for primary essential anemia, as also a pronounced reduction in the numbers of white corpuscles, especially of the myeloid elements, while the lymphocytes are relatively increased. With cancer there is generally leucocytosis. Small doses of phosphorus have sometimes proved beneficial in his experience, and he adds that saline transfusion or Ziemssen's injections of blood deserve further trial, as they may have a stimulating action on the bone marrow.

90. **Peculiar Reaction to Electric Energy in Hysteria.**—Kahane is in charge of the Institute for Physical Therapeutics at Vienna, and has been studying for years the therapeutic action of high-frequency currents. As a rule, he says, their local application has a vasoconstricting, secretion-checking action, while pain and itching are reduced. Their general application has a soothing effect in most cases, and this sedative action has proved very beneficial in neurasthenia. On the other hand, in hysteria the high-frequency currents invariably produced the reverse of their customary effect. In every case the condition was immediately aggravated and an attack brought on in the monosymptomatic cases. After the general d'Arsonvalization the hysteric patients complained of disagreeable sensations in their limbs, and it seemed as if the balance in the nervous system had been upset. This peculiar and unprecedented reaction to the high-frequency currents suggests the possibility that the condition known as hysteria may result from modification in the nervous system affecting its reaction to certain forms of electric energy.

91. **Zinc Gelatin Dressing for Leg Ulcers, Varices and Joint Affections.**—Hecker has found Unna's zinc gelatin dressings useful in treatment of these troubles, as it counteracts the tendency to stagnation in the circulation, while it gives an unfailing support and does not interfere with the patient's business. Other advantages are that it is inexpensive and clean, and can be applied by any practitioner and does not require renewing for weeks. Unna's formula has never been improved on, he says:

R

Zinci oxidatis.				
Gelatini	āā	10	or	ʒiiss
Glycerini.				
Aquæ destillate	āā	40		ʒx
Ichthyolis		2	5	gr. xl

The leg is scrubbed and shaved, then cleansed with ether or benzin and the gelatin preparation, softened by warming, is spread on the entire leg except at the site of the ulcer. A strip of cotton is then laid below the knee and above the toes and two starched roller bandages about ten yards long and four inches wide are wound around the leg from the toes up, leaving the toes exposed for control of the circulation in the limb. The secret of success is to have the bandage wound so as to exert a strong, even pressure. This "skin splint" is cut off with plaster-shears when renewal is deemed necessary, once in three weeks at first, but later not for four or six weeks. If the stiff bandage binds at any point, all that is necessary is to moisten this part with warm water and it will soften and adapt itself to the surface as desired. He has found that old rebellious ulcers begin to heal at once under this treatment, and that the scars are stronger and firmer than with any other technic. He has found these gelatin dressings useful also in cases of effusions in the joints and as an aid in various surgical procedures.

Münchener medizinische Wochenschrift.

October 27, LV, No 43, pp 2217-2264

95 *The Function of the Placenta P. Bergell and E Falk
96 *Resistance of Paratyphoid Bacilli of Type B in Dried Human Stool (Resistenz von Bazillen des Typus Paratyphus B in ausgetrockneten menschlichen Darmentleerungen) O Mayer
97 Lightning Treatment of Cancer (Fulgurationsbehandlung maligner Tumoren) K Schultze
98 *Dangerous Consequences of Ocular Tuberculin Reaction (Gefährliche Folgen der Calmetteschen Ophthalmoreaktion) P. Schrumpf
99 Incarceration of Hernia by Subperitoneal Lipoma. (Einklemmungserscheinungen bei Fettbruchen) W Sachs
100 Treatment of Traumatic Effusion in the Knee. (Behandlung des Hydrops genu traumaticus) Hartleib
101 Atropin for Incarcerated Hernia H Rabl
102 Early Diagnosis and Treatment of Bronchiectasia G Beldau
103 Urethrotelescope (Ueber einen neuen optischen Apparat zur endoskopischen Untersuchung der Harnröhre) R Kaufmann
104 *Habitual Malignant Jaundice in Newborn Infants. (Ueber den habituellen Ikterus gravis der Neugeborenen) J Pfannenstiel
105 *Are Physicians Justified in Taking Pay from Manufacturing Chemists for Scientific Tests of Pharmacologic Preparations?

95. **Function of the Placenta.**—Bergell and Falk report research which demonstrates that the placenta is an organ participating in the metabolism, regulating the metabolism in the fetus

96 **Paratyphoid Bacilli.**—Mayer presents evidence to prove that paratyphoid bacilli retain their vitality in dried human stools for a year and a half if protected from sunlight. He ascribes to this long resisting power several endemics in his experience.

98 **Evil Consequences of the Ocular Tuberculin Reaction.**—Schrumpf describes two cases in which instillation of tuberculin in the eye of a drop of a 1 per cent. solution of "old" tuberculin induced inflammation, which was very long in healing and left permanent opacity of the cornea in one case. The patients were women of 65 and 81, and the parenchymatous keratitis induced resembled very much ordinary tuberculous inflammation of the cornea He cites further 23 authors who have published reports of disturbances in consequence of the tuberculin instillation, ranging from intense conjunctivitis to keratitis with or without involvement of the iris. In both of his cases the eyes were previously certainly sound Another disadvantage of the ocular reaction is that the eye process is liable to flare up again if a course of tuberculin treatment is instituted A positive reaction to the tuberculin instillation has also a depressing influence on the patients.

104. **Habitual Malignant Jaundice.**—Pfannenstiel applies this term to the cases in which several infants in turn in the same family develop malignant icterus soon after birth He has had a case of this kind in his own practice and learned of two more in his district, and has found a few on record. In his case a healthy young woman had four children, born in the course of four years, all apparently healthy and well developed, and yet the last three all died in a few days from malignant jaundice which developed soon after birth Large quantities of dissolved bile pigment were passed in the urine; the stools were colored with bile, but the infants presented peculiar meningitic symptoms which increased and subsided in waves, with opisthotonos and tonic spasms of the arms, and the various mucosæ showed a tendency to catarrhal discharges of a yellow tint The only difference noticed in the different children was the amount of resistance they were able to oppose to the affection, some lasting longer than the others before succumbing to the malignant affection The first born never displayed the tendency to jaundice and has always been healthy. The findings at the autopsy of each of the jaundiced children are described in detail, and the cases in the literature are reviewed and compared with them In some cases this habitual jaundice has been observed up to nine times in one family, but healthy children may grow up healthy between the jaundice children He does not believe that there is any essential difference between the mild form of this habitual jaundice and the so called "physiologic icterus" of the new-born. Syphilitic infection was not present in any of the cases to date, and other infections are scarcely probable When jaundice is observed in an infant energetic measures to eliminate the toxin are indicated at once. Diuresis should be stimulated by giving the child as much water or fennel tea as possible, with the meals or alternating with them. An alkaline water might prove useful. Subcutaneous infusion of saline solution, from 100 to 150 c c, should be given, repeated if necessary. Warm baths with cool douches are indicated to stimulate the circulation and the functioning of the skin. Small doses of calomel at the beginning may be useful, later cautiously rinsing out the intestines with chamomile tea, keeping the child warm and protected from bright light and noises as it is very sensitive and wakes readily. Breast feeding is imperative, not allowing much at a time to avoid stimulating the secretion of bile. Once in four hours is often enough if water is given copiously in the interim. Treatment otherwise must be symptomatic, combating the tendency to hemorrhage sometimes observed. In one of the children in his experience hemorrhage from the umbilical cord persisted unmodified until after an injection of gelatin. By application of treatment along these lines one of the children survived for three weeks, and if the affection had been a trifle less severe might possibly have recovered. He urges further research on the jaundice of the new-born on the part of obstetricians, pediatrists and pathologists.

105 **Pay for Trials of New Drugs.**—A previous summary of the action of the German Medical Press Association on this subject was given in The Journal, November 7, page 1613 The editor of the Munich weekly takes a more decided and extreme stand than the other members of the association, and here reiterates his contention that the principle should be upheld denouncing acceptance of remuneration from the manufacturers for trials of pharmaceutic preparations in the clinic By surrendering this principle, he says, the struggle against fake medical write-ups is rendered immeasurably more difficult

Wiener klinische Wochenschrift.

October 29, XXI, No 44, pp. 1507 1544.

106 Address at Dedication of Hygienic Institute. A. Schattenfroh Id R Paltauf.
107 Research on Anaphylaxis E P Pick and T Yamanouchi
108 Opsonins and Their Importance for Tuberculin Treatment M Laub.
109 *Serum Diagnosis of Syphilis. (Weitere serodiagnostische Untersuchungen bei Syphilis) S Grosz and R Volk
110 Precipitin Test for Biologic Research on Feces (Biologische Untersuchung des Kotes) E Brezina and E Ranzi
111 Value of Consumption of Oxygen as Test for Water (Verwertbarkeit der Sauerstoff-Zehrung in der Methodik der Wasser und Abwasser untersuchung)) E. Brezina
112 *Sensitizing Action of Animal Pigments and Its Physiologic Significance (Die sensibilisierende Wirkung tierischer Farbstoffe und ihre physiologische Bedeutung) W. Hausmann
113 New Eye Reflex: Disappearance of Radial Pulse During Pressure on Eyeball (Ein bisher noch nicht beschriebener Reflex vom Auge auf Kreislauf und Atmung) B Aschner

109. **Serum Diagnosis of Syphilis.**—Grosz and Volk report the results of the serum test in 178 cases, including 124 syphilitics The later history of the patients in connection with the findings confirm the extremely valuable and reliable information to be derived from the test when the findings are positive, but negative findings are inconclusive.

112 **Sensitizing Action of Animal Pigments and Its Physiologic Significance.**—Hausmann announces that bile has a powerful photodynamic action Red blood corpuscles mixed with bile and exposed to the sunlight rapidly disintegrate, while a similar solution kept in the dark remains unchanged. A concentration is used for the tests free from hemolytic action as long as it is not exposed to the sunlight Hematoporphyrin has a still more pronounced sensitizing action than bile alone. He is inclined to believe that these substances, like chlorophyl, exert their sensitizing action only at certain points and are otherwise inert, like the photographer's sensitizing substance, which is inert so long as he keeps it in its jar; it displays its specific power only when spread on the photographic plate. In studying the effect of light on the organism, the possibility of a sensitizing action from some of these substances must be borne in mind, he says. An insufficiency of the sensitizer or an excess may be one of the factors in certain skin affections; bacterial products may also have a sensitizing action. Possibly, he suggests, the action of mountain climate may have something to do with these sensitizing factors.

Zentralblatt für Chirurgie, Leipsic.

October 31, XXXV, No. 44, pp. 1289-1320.

114 *Method of Sterilizing the Skin for Operations. (Neue Sterilisierungsmethode der Haut bei Operationen.) A. Grossich.
115 *Explanation of Postoperative Spastic Occlusion of Intestine. (Zur Erklärung des *postoperativen spastischen Darmverschlusses.)* F. Franke.
116 *Fatal Bismuth Poisoning. (Wismutvergiftung durch Injektionsbehandlung *nach* Beck.) *H.* Eggenberger.

114. **Improved Method for Sterilizing the Skin.**—Grossich applies a 10 or 12 per cent. tincture of iodin to the field of operation and to disinfect the skin around, without any preliminary scrubbing with water. His microscopic studies have shown that the tissues take up the iodin much more readily when they are dry, and that it penetrates deep into all the nooks and crevices, which does not occur with the usual preliminary scrubbing with soap and water. The water macerates the epidermal cells and they swell and plug the openings. He relates his experiences with this technic, especially in a large number of cases of open crushing wounds in laboring men. The parts are shaved, dry, and then painted with the tincture of iodin, and a sheet is then laid over the naked patient with a hole over the field of operation—the sheet fastened to the skin with a few small clamps and reaching to the floor all around. After the patient has been anesthetized, the field of operation is painted a second time with the tincture of iodin and the completed suture is swabbed anew with it. He has never witnessed any by-effects from this technic, not even when a third of the body was painted with the iodin. This technic he is convinced eliminates all danger of infection from the patient. He applies it only when the wound is still entirely free from signs of inflammation such as redness and swelling. If the tincture of iodin is applied after the parts have been recently scrubbed with soap and water, there is liable to be suppuration; *it is indispensable* that the tissues should be dry when the iodin is applied for this purpose.

115. **Postoperative Spastic Intestinal Occlusion.**—Franke ascribes postoperative ileus to a traumatic neurosis of the intestines, *and cites a number* of arguments to sustain this view, remarking that the trauma may be either mechanical or psychic. He has observed cases in which the postoperative ileus developed after fixation of a wandering spleen, the intestines not being involved in the operation at all. In one case, the occlusion occurred before *the operation had* been commenced, and subsided spontaneously later. He has also observed cases in which this *form of ileus was* undoubtedly the result of the action of belladonna or physostigmin, given to stimulate peristalsis, but possibly *in too large dosage*. The ileus subsided *completely in two* such cases in his recent experience when the drug was suspended.

116. **Bismuth Poisoning from Local Injection in a Fistula.**—Eggenberger injected 30 gm. (450 grains) of 50 per cent. bismuth vaselin into a spondylitic fistula in the abdomen of a boy of 7. He had applied *this treatment with good success* in several cases previously, following Beck's directions. The bismuth vaselin was left in the fistula and the boy grew puny after six weeks, with a stomatitis suggesting mercurial poisoning, and with ulcerations on the gums and lips. On the assumption of bismuth poisoning, the abscess was opened and evacuated, but the *symptoms progressed*, the syndrome resembling the picture of uremic toxic irritation of the cortex, and proving *fatal in a few days*. Autopsy revealed punctate hemorrhages in the stomach mucosa and an ulceration in the cecum, *with the mucosa and the brain cortex* hyperemic throughout.

Zentralblatt für Gynäkologie, Leipsic.

October 31, XXXII, No. 44, pp. 1441-1464.

117 *Cure of Dysmenorrhea and Amenorrhea Under Tuberculin Treatment According to K. Spengler. (Tuberkulose und Menstruation.) K. Eisenstein and J. Hollos.

117. **Relations Between Tuberculosis and Menstruation.**—Eisenstein and *Hollos* report experiences which seem to show that the ovarian system regulating menstruation reacts most sensitively and intensely to the influence of tuberculous toxins so that the great majority of tuberculous women suffer from irregularities in menstruation. They further assert that tuberculin treatment has a most remarkable influence on these menstrual irregularities and pains, promptly restoring conditions in the menstrual sphere practically to *normal*. Their *statements* are based on 118 cases; most of these tuberculous women were taking a systematic course of tuberculin treatment according to Spengler's technic. Spengler believes that tuberculosis is of the human type in some and of the bovine type in other patients, but that both types *participate in most cases. He aims to treat* the patients with the opposite type from that with which they are infected. In 70 women with *dysmenorrhea out of the* total 118, the improvement in the menstrual conditions occurred with promptness and energy. In 16 out of 22 *women with* severe dysmenorrhea *from the first inception* of menstruation the pains vanished entirely under the *tuberculin treatment*. Still more striking was the return or onset of apparently normal menstruation in 14 cases of amenorrhea. In some cases this effect occurred in one and in others in two or three days *after the first injection of tuberculin*. Eisenstein and Hollos called attention last year to the remarkable cure of dysmenorrhea in 10 women taking a course of tuberculin treatment.

Gazzetta degli Ospedali e delle Cliniche, Milan.

October 25, XXIX, No. 128, pp. 1373-1388.

118 *Electrocardiograms in Diagnosis of Heart Affections. (Intorno *alle correnti di azione del cuore.)* G. Galli.
119 Roentgen Examination of Tracheal Glands. (Ricerche röntgenologiche nell'adenopatia tracheo-bronchiale.) F. Laureati.
120 Differentiation of Tuberculous Sputum with Millon's Reagent. (Diagnosi differenziale fra sputi tubercolari e quelli di altra natura per mezzo del reattivo di Millon.) G. Salmoni.
121 Differentiation of True and False Mitral Stenosis. (Dei pseudo-restringimenti mitralici funzionali e dei *rumori* cardiaci anorganici in genere. Nuovo metodo di esame dello stato funzionale del cuore.) F. Pedrazzini.
122 Erythromelalgia. (Eritromelalgia o neuralgia rossa.) P. Romeo.

118. **Electrocardiograms.**—Galli *gives an illustrated description* of the method of recording the movements of the heart *by the string electrometer which registers* the electric currents generated in the heart muscle by each contraction. The tracings of these "action currents" form the electrocardiograms, and they afford better insight into the functioning of the heart, it is claimed, than any other means of investigation at our disposal. Einthoven has been mainly instrumental in perfecting this technic.

Policlinico, Rome.

November 1, XV, Practical Section, No. 44, pp. 1381-1412.

123 Application of the Cutaneous and Ocular Tuberculin Reactions, Agglutination Test and Opsonic Index in Diagnosis of Surgical Tuberculosis. (La siero- [illegible] *reazione, l'oftalmo-reazione e la ricer* [illegible] nella diagnosi della tubercolosi chiru [illegible]

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed *by us a full equivalent to those sending* them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

SURGERY, ITS PRINCIPLES AND PRACTICE. By various authors. Edited by William Williams Keen, M.D., LL.D., Emeritus Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia, and John Chalmers DaCosta, M.D., Professor of the [illegible] Surgery and of Clinical Surgery, Jefferson Medical [illegible] Vol. iv. Cloth. Pp. 1191, with illustrations. [illegible] ladelphia: W. B. Saunders *Co., 1908.*

TRANSACTIONS OF THE SIXTH ANNUAL CONFERENCE OF STATE AND TERRITORIAL HEALTH OFFICERS WITH THE UNITED STATES PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE. Washington, D. C., April 27, 1908. Cloth. Pp. 79. Washington: Government Printing Office, 1908.

LEITFADEN DER HYGIENE. *Von Aug.* Gärten, O. ö., Professor der Hygiene und Direktor des hygienischen *Institutes* der Universität Jena. Fifth Edition. Paper. Pp. 634, with illustrations. Price, 7.60 marks. Berlin: Verlag von S. Karger, 1909.

SIXTEENTH ANNUAL REPORT OF THE CHESTER COUNTY HOSPITAL TOGETHER WITH FIFTEENTH ANNUAL REPORT OF THE WOMEN'S AUXILIARY, 1907-1908. *Paper. Pp.* 49, with illustrations. West Chester, Pa.: Horace F. Temple, Printer, 1908.

PRINCIPLES AND PRACTICE OF PHYSICAL DIAGNOSIS. By John C. DaCosta, Jr., M.D., Associate in *Clinical* Medicine, Jefferson Medical College. Cloth. Pp. 548, with illustrations. Price, $3.50. Philadelphia: W. B. Saunders Co., 1908.

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Original Articles

THE PHARMACOPEIA AS THE STANDARD FOR MEDICAL PRESCRIBING.*

TORALD SOLLMANN, M.D.
Professor of Pharmacology and Materia Medica at the Medical Department of Western Reserve University; Member of the Council on Pharmacy and Chemistry of the American Medical Association.
CLEVELAND, OHIO.

I was requested to discuss a subject which has been much agitated of late, namely, "The United States Pharmacopeia and National Formulary as Text-books in Medical Schools." Taking the title "text-books" literally, my answer would be a very brief negative, for the strictly technical reason that the functions of a reference book and of a text-book are to a certain degree incompatible. The Pharmacopeia must be a book of reference, and can yield this function to no other. I will refer only to the matter of the alphabetic arrangement, which is so eminently impractical in a text-book; but there are many other points which are even more important.

After all, however, the question which really interests the profession is not whether these books should be studied in the original text and binding, but rather, whether they can and should serve as the main or exclusive basis of instruction in materia medica. If so, the manner in which they are presented to the student may safely be left to the judgment of the trained teachers of the subject. Looking at the matter in this way, it assumes a much broader aspect; for the question of the adequacy of the official drugs in medical instruction is identical with the question of their adequacy in medical practice. I have, therefore, preferred to alter the title of my paper so as to indicate the larger scope.

INTEREST IN OFFICIAL DRUGS.

The last few years have seen a most remarkable revival of interest in the official drugs and preparations. The cry "back to the Pharmacopeia" has gone through the land. The Pharmacopeia has been lauded here and there as the panacea for all therapeutic ills. To talk and write about "official prescribing" has become the fashion. Is it a mere fashion? Or does it represent a real sentiment, based on conviction, and in final analysis, on facts? Let us examine into the matter. What is behind this movement? What does the Pharmacopeia mean to us? Is it a mere fetish, whose adoration will affect our purification by some mysterious emanation? Or does it stand for definite ideas and ideals? If so, are they worthy, and are they in fact realized by the Pharmacopeia? These questions must be answered, and in no uncertain manner, before we can afford to give our whole-hearted and unreserved support to this pharmacopeial movement. If we find that the answers are but partly satisfactory, then our support should only be partial, and our main energies should be devoted, not so much to the exploitation of the pharmacopeia as it is, but to making it what it should be.

The inquiry has already begun, in the most practical manner, that of the stern logic of facts. Many men who a few years ago prescribed secret remedies are now turning with the best resolutions to the Pharmacopeia and to the National Formulary to see what these hold for them. These books are being subjected to a test much more severe than that to which they were recently subjected by the Food and Drugs Act. They will have to answer the question, in a practical way, whether they are indeed representative of the medicine of the day—not of a hundred years ago, nor of ten years ago, nor of ten years hence—but of to-day: not of medicine as practiced by the herb-woman, or by the "registered-through-years-of-practice," or by the novelty hunter, but medicine as it is practiced by the intelligent, fairly trained, conservative-progressive practitioner, who represents the average practical ideals of the profession. For, after all, the real object of those who strive for reform is not pharmacopeial prescribing, but scientific prescribing; the use of scientific non-secret remedies, such as the Pharmacopeia is supposed to contain. Whether or not the Pharmacopeia is to be the means of this reform depends entirely on the extent to which it meets these ideals.

VALUE OF THE PHARMACOPEIA TO THE PHYSICIAN.

The usefulness of the Pharmacopeia to the physician is coincident with the usefulness of the remedies which it contains. What most concerns the physician is the selection of the substances which are admitted into the Pharmacopeia. To attain its object so far as the medical profession is concerned, it must in the first place contain the substances which the physicians wish to use. It may be put down as an axiom that the practitioner who does not use the remedy which is best for his patient is not doing his duty. If that remedy is not in the Pharmacopeia, so much the worse for the Pharmacopeia.

In the second place, however, to fully reach its ideals, the Pharmacopeia should be, to a certain extent, educative—it should not be the dump heap of a miscellaneous collection of remedies, good, bad and indifferent, which happen to please the passing fancy of the year of its publication. On the contrary, it should aim to contain only remedies of demonstrated value and superiority. In this way it may guide and lead the practitioner, who will come to it with some confidence that in using

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Pharmacopeial remedies he is indeed using something of value.

This, then, is the test to which the Pharmacopeia is being subjected. It is not necessary to await the outcome, the general results can be foretold, and to a considerable extent forestalled, by timely changes. The truest friends of the Pharmacopeial movement are the first to concede that the present Pharmacopeia can not claim to attain fully these ideals, and that the National Formulary is far from being a perfect guide to scientific prescribing. Setting aside the Formulary for later consideration, let us inquire into those faults of the Pharmacopeia which prevent it from becoming popular with the medical profession. This will necessitate some rather thorough criticism, but I trust that this will be constructive, rather than destructive.

Before entering into this criticism I wish to place myself on record as a sincere admirer of the wonderful amount of reliable information which is collected in this volume, and which makes it one of the most valuable works of its kind. Its defects are caused mainly by the methods used in its preparation; and in the following I wish to suggest to you such plans as will, in my opinion, greatly, if not entirely, eliminate these defects. According to the method of scientific therapeutics, let us inquire into the causes of the deficiencies of the Pharmacopeia and see whether we may not thus arrive at rational remedies.

Why does not the Pharmacopeia of to-day represent more successfully the best of present day therapeutics? Why does it not contain some of the valuable remedies, and why does it contain so much that is obsolete?

The causes seem to me to come under three headings: 1, The principles and methods used in selecting what substances are to be admitted; 2, the veil of secrecy thrown about the proceedings of the revision committee; 3, the long interval elapsing between the revisions.

I shall not aim to point out how these same factors lessen the usefulness of the book as a pharmaceutical standard—this aspect of the question is at least equally important; but, for want of time, I shall confine myself mainly to the medical aspects. From this standpoint, the question of the selection of remedies is at the moment by far the most important; but since it is also the most complex, I shall reserve it for the last.

DISADVANTAGES OF THE PRESENT METHOD OF REVISION.

If I am correctly informed, the present revision committee has aimed to enshroud its deliberations and proceedings with an impenetrable veil of secrecy, so that no one outside of the committee should know what was to go into the Pharmacopeia until the first copy was on sale; and so that no one to this day, three years after the publication, should know what manner of reasoning led to the conclusions which are embodied in this book.

It is one of the most unfortunate results of this very system that we do not even know what prompted its adoption. Presumably it was devised with the object of excluding interference on the part of those who might be financially interested in the decisions. If this was the motive, I would submit that publicity would accomplish the purpose much more successfully than any attempt at secrecy.

On the other hand, this short-sighted policy deprived the committee of the benefits of a public discussion of its contemplated policies. No revision committee can be expected to be perfect and omniscient. Would it not be advisable to throw its decisions and conclusions open to a general discussion before they become fixed and binding, as at present, for ten years? I am not proposing that all the details of the deliberations of the committee should be published—a committee of this kind is entitled to some decent privacy and quiet; this is indeed essential to all scientific work. But I *do* contend that its methods and its decisions should be published from time to time, as adopted; and that a reasonable interval be allowed for discussion, criticism and alteration before any decision is made binding.

I am not so sure whether it would be wise to publish the constitution of the various committees, while the work of revision is in progress—but on the whole I think that this would be the wiser policy. At least, there would be no disadvantage and every advantage in publishing the names of those in especial charge of the different portions of the work after the Pharmacopeia is published.

WHAT INTERVAL SHOULD ELAPSE BETWEEN SUCCESSIVE REVISIONS?

As you all know, the Pharmacopeia is revised every ten years. All the improvements and discoveries which are made in the interim must wait for recognition until the next revision. In other words, the Pharmacopeia is generally from one to ten years behind the time. It is superfluous to point out what this means in these days, when the annual output of research in therapeutics, pharmacy and the allied sciences is measured by volumes. Moreover, any errors which have crept into the book; formulas which are found unworkable; standards which actual trial demonstrates as too strict or too lax—all such matters have to stand unrepealed for a decennium.

This has resulted in the anomaly that the supposed authoritative standard was neither the final authority nor the final standard. This deficiency was rendered so conspicuous when Congress enacted the Pharmacopeia as the federal standard, that the present revision committee felt obliged to take the first step in the right direction by issuing lists of "additions and corrections." The necessity for this supplementary revision is made manifest by the fact that within two years these corrections included 431 changes; or 274, if duplicates are excluded. In the words of the chairman of the revision committee:[1] "That the Pharmacopeia should be revised oftener than once in ten years must be apparent to all, and this subject must claim the serious attention of the next Pharmacopeial convention; but, on the other hand, a constant tinkering with the standards should be avoided."

I agree heartily with both clauses of this statement, although I venture to doubt whether any amount of "tinkering" could unsettle conditions more than the long delay which we have witnessed in the issue of the last Pharmacopeia. This, combined with the strict policy of secrecy, operated to the intent that no one knew "where he was at" in matters pharmacopeial, for at least five years. The excessively short time which was granted for the adoption of the new standard served still further to unsettle conditions. This important matter, incidentally, should be adjusted in advance by the convention and not left to the committee or even to the trustees.

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[1] Amer. Pharm. Assoc. Bull., ii, 365.

To return to the subject, however, there should be no "tinkering," but only such repairs and improvements as the intervening experience has shown to be necessary. On the other hand, whenever the advisability of a change has been demonstrated, it should be made as promptly as possible. I would suggest that the new revision committee publish its conclusions as soon as they are made, monthly if necessary; that a reasonable interval, at least four months, be allowed for general discussion; that once a year, or oftener if necessary, a supplement be issued, printed in such a way as to be readily detached and inserted into the present Pharmacopeia; that each supplement became official four months after its publication. All this before the next regular "revision" is issued; that when the ground has been fairly covered in this manner—be it three, five or seven years—the "revised" edition be published, which would not be anything essentially new, but only a systematized reprint of the old edition and the new supplements. That the same procedure be kept up until the meeting of the next convention, when the committee would terminate its labors by reporting to the convention whatever changes in general policy their experience would suggest. I am convinced that some such changes must be made if the Pharmacopeia is to become the real standard; but these suggestions should only be adopted with a realization of their full meaning.

This whole subject is one of the most important and far-reaching with which the next Pharmacopeial convention will have to deal, for an affirmative vote will mean a radical reorganization of the present method of revision. It will mean that the revision is to be continuous instead of intermittent; that the revision committee will be in active service throughout its entire term of office; it should mean the concentration of the responsibility on those who have the time and ability to render this continuous service and to do the actual work; it should mean the elimination of any whose services are ornamental rather than useful, political rather than technical; it should mean that the ninth revision of the Pharmacopeia would begin to appear and to be official within one or two years after the meeting of the convention; and that it would not be closed until the meeting of the next convention.

ORGANIZATION OF THE REVISION COMMITTEE.

It appears to me that the present revision committee is too large for effective work and for the proper distribution of responsibility. The present method of selecting the members of this committee, without regard to their special qualifications and of subsequently assigning to them special technical subjects, also seems to me poorly adapted to securing the special expert talent which the revision requires. The fact that thus far the revision committee has met the demands on it as well as it has, seems to me rather a fortunate accident. The matter is far too important, however, to be entrusted to accidents. As to the division of the work among the committee, the scheme described by Professor Rice[2] is admirable in its general scope, although I would suggest the consolidation of several of the subcommittees, for the purpose of centralizing responsibility.

To illustrate the working out of the ideas which I have presented, I would submit to you the following outline for the appointment and *modus operandi* of the general revision committee.

Membership of the Revision Committee.—The final voting power should be entrusted to a limited "executive committee" consisting of the general chairman and chairman of the nine subcommittees, namely:

1. Admission.
2. Pharmacognosy.
3. Proximate Principles and Assays.
4. Volatile and Fixed Oils.
5. Inorganic Chemicals, Chemical Processes and Reagents.
6. Organic Chemistry (including synthetics).
7. Pharmaceutical Processes and Formulas.
8. Pharmacodynamics (including sera).
9. Therapeutics (including strengths and doses).

With the general chairman, this would give a working (executive) committee of ten members. These chairmen should be elected directly by the pharmacopeial convention. Two nominations for each place should be submitted by the retiring revision committee—one of these two nominations should be that of the present incumbent, if he has performed his services satisfactorily, and is willing to continue. Additional nominations from the house should be called for. The nominations and ballot for each place should be taken up seriatim.

The elected chairman of each subcommittee should appoint such "associates" to his committee as he deems advisable, subject to the approval of the executive committee. The associates of the admission committee, however, should be elected directly by the convention. In case of failure of any member to carry on the work of his committee properly, it should be the duty of the general chairman to report this to the trustees, who, after opportunity of hearing, should relieve him of further service, if they deem this necessary, and elect a successor from nominations made by the executive committee. Vacancies from other causes should be filled in a similar manner.

GENERAL WORKING METHOD.

The admission of an article having been decided by the admission committee—of which I shall have more to say presently—the general chairman should refer the article to the chairman of one of the committees 2 to 8, on whom the responsibility of securing a proper description should rest. The chairman of this subcommittee should then apportion the article among his staff and should obtain what outside aid he needs from the other subcommittees and elsewhere, and render a report to his subcommittee for discussion. After alteration and adoption by this subcommittee, he should transmit his final report to the executive committee for vote. If adopted, the therapeutic committee should affix the dose, and the general chairman should prepare the description for publication, submitting proof to the executive committee and to every member of the subcommittees in which the report originated.

SCOPE OF THE PHARMACOPEIA AND THE ARTICLES ADMITTED.

I have postponed the discussion of this question as long as possible, because it is the most difficult phase of the subject. We will make better progress if we acknowledge at the outset that the question is incapable of a strictly scientific and logical solution; that the answer must be a compromise, because the Pharmacopeia itself is a compromise between very diverse interests.

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[2] Pharm. Era, 1895, xiii, 102.

The retail pharmacist, the manufacturer, the unprogressive and the progressive physician, and the pharmacologist—each would make a very different Pharmacopeia. The east and the west and the south would introduce further differences. No one Pharmacopeia which human ingenuity could devise would seem ideal to all of these factions. Admitting then this difficulty, that the Pharmacopeia must be a compromise, it does not, however, follow that it must be a compromise without any plan or system.

As a basis for discussion, I would submit the following definition of the plan and scope of a national Pharmacopeia, viz:

It should aim to enumerate those substances whose medicinal value and superiority are generally conceded and which are generally used in the country; it should aim to furnish such descriptions and indicate such tests as will suffice to establish the identity, strength and medicinal purity of these substances; and it should furnish practical working formulas for such preparations as may be profitably prepared in a well equipped retail pharmacy. It should aim to present this information clearly and conveniently; above all, it should aim at the highest degree of reliability of all its contents. Consequently, it should be slow to accept any statement or opinion. It should breathe a healthy but not excessive conservatism as to new matters, and an equally rigorous criticism and re-examination of old matter.

With this general definition in mind, let us examine what criteria should be applied to the selection of admissions. The extremely conflicting opinions which prevail on this score can, it seems to me, be brought under three headings:

1. The first opinion, particularly prevalent among pharmacists, is that the Pharmacopeia should contain all substances which are sufficiently often used; whether they be good, bad or indifferent; whether they are used by physicians or only by the laity.

2. The second opinion differs from the first only in so far as it would exclude those substances which are not used by physicians, but only by the laity.

3. The third would exclude all substances whose value had not been scientifically demonstrated, regardless of their extensive use.

Personally, I feel convinced that the last is the direction in which progress lies. It is the ideal for which we should strive; the ideal which will enlist the sympathy of the best, and I trust of the largest, portion of both professions. In proportion as it is successfully attained, it will do more to place the popularity of the Pharmacopeia on a solid foundation, among the medical profession, than any pandering to ephemeral fads and fancies, than any concessions to "nine day wonders" of advertising.

In urging you to accept and support this ideal, I do not wish to commit you to any visionary scheme, to any impractical standards. I do not consider the full attainment of this ideal practical, but I do consider the striving for it as eminently practical and useful. An ideal, however worthy, is not in itself the solution of a problem, but it can be of great practical value as a guide in the solution. The compass does not calm the tempest; it does not even steer the mariner across the sea—but it shows him in what direction to steer.

HOW TO DETERMINE WORTH.

If we then accept this ideal, how are we to determine which remedies are truly worthy? There are three different ways open to us:

1. Popular experience as determined by the continued extensive use of the drug.

2. Clinical experience, as represented in the current opinions of clinicians.

3. Laboratory experience, representative of the stricter conditions of control.

Each of these methods is open to obvious fallacies. Mere popularity, as evidenced by extensive use, is no more conclusive evidence of the intrinsic value of a remedy than it is of the intrinsic value of anything else.

The clinical experience would seem the best guide, theoretically. But no one who has watched the ebb and flow of therapeutic practice—the ease, for instance, with which it can be temporarily swayed by skillful advertising—would care to entrust the judgment of therapeutic value to clinical experience alone.

The laboratory investigator, finally, deals more strictly with demonstrable facts; if he is honest and capable, his statements as to these facts may be generally accepted as correct and conclusive. But the honest and capable laboratory investigator is the first to concede the limitations of these facts and to seek their correlation with clinical and popular experience.

I believe that the practical solution of the problem lies in the last direction—in the critical correlation of the three classes of experience. With the present imperfections of therapeutic science, the problems must be approached by every avenue, and not by one to the exclusion of the others. Popularity, or the lack of it; the consensus of clinical opinion; and laboratory results—each of these should be admitted to furnish presumptive evidence for or against the value of a substance, unless they are clearly and definitely contradicted by the others.

If we are agreed on the ideal and on the nature of the evidence required, we must next ask, how is the evidence to be collected and judged? As to the collection of the evidence, the methods must be very different for each of the three classes. The simplest case is in regard to laboratory experience; for the number of professional "pharmacologists" is so limited that their opinions could be readily learned by direct correspondence.

The same method, however, when applied to clinical and popular experience, would only result in confusion. It would be necessary to aim at a representative rather than at a universal expression of opinion. For this the ideal medium exists ready at hand in the local societies, both medical and pharmaceutical.

In practice, then, I would suggest that a check list of the substances and preparations contained in the present Pharmacopeia be sent to the secretary of every local medical and pharmaceutical society, with the request that his society vote which of these articles they consider worthy of retention, in accordance with the ideals laid down; and to indicate any further remedies which they would wish to have added.

If a fair proportion of both professions can be made to see that the Pharmacopeia is, after all, their book, and not the book of the revision committee; if they can be made to feel that their cooperation is really desired and that the request for cooperation is not merely perfunctory; then I feel certain of a sufficient response to such an inquiry to furnish some statistical basis for judgment. This would be of the highest value, indeed indispensable, for the solution of this question, provided that it is used intelligently and judiciously, with a proper regard for cause as well as effect.

This opens up the final question as to who is to sift and judge this and other evidence and decide on the admissions. At present, I believe this matter is decided by the whole revision committee, each member having an equal voice. Is this method calculated to give the best results? In seeking for an answer we need only consider the fact that most of the members of this committee are supposed to be selected primarily for their expert knowledge of chemistry, pharmacy or pharmacognosy and not for their ability to judge of the medicinal importance of the substances. It undoubtedly happens quite frequently that the knowledge of the one and the ability to judge the other are combined in the same individual; but even so, this is little more than a coincidence; and this matter also is far too important to be left to mere chance.

This is illustrated by the examination of the composition of the revision committee. Every one, I think, will concede that the medical profession should, on the whole, have the larger, if not the exclusive share in deciding what substances are of medicinal importance. Yet of the twenty-six members of present revision committee, only twelve have the title of M.D, and of these only half are identified mainly with medicine. So that the medical profession, instead of having the dominant voice in the decisions, is very decidedly in the minority. This preponderance of pharmacists is indispensable for the technical work of the revision, for this is mainly pharmaceutical. This makes it apparent that these two subjects—the selection of the admissions and the technical matter—can not be handled with equally satisfactory results by the same set of men. The authority and responsibility for the admissions must be vested in a special committee—and the importance of this subject demands that this committee be elected for this specific purpose directly by the convention.

I can see no valid objections to this plan; any members elected to this committee could also be elected to the chairmanship of any of the other subcommittees if this were thought desirable. To secure a good committee, however, the convention should be guided by definite rules as to eligibility. It goes without saying that the members should be of the highest integrity and as free as possible from any affiliations which might cloud their judgment. But it is equally important that they should be able to deal intelligently and thoroughly with the subject, and to this end, that they represent fairly the best sanely progressive and conservative element of both professions.

The exponents of popular, clinical and laboratory experience should all three be represented by retail pharmacists, practicing clinicians and professional pharmacologists. An equal representation appears to me the most desirable, let us say two representatives of each, making a working committee of six. After due consideration and discussion of the statistical and other evidence, an affirmative vote of four should then be required for the admission of an article. As soon as an article has been thus accepted, it would be turned over to the general chairman of the revision committee for technical elaboration, as I have previously outlined.

There is one more matter in connection with admissions where the present policy should be revised—I refer to the admissibility of patented medicines and otherwise protected articles. The policy, dictated by the convention, has been to exclude these from the Pharmacopeia, presumably as a protest against the commercialization of what we would love to see an honored sister-profession, rather than a business. If this was the object of the exclusion it has signally failed in practice—the new inventions are still being given to the suffering public with a monopolistic string attached—free handed, but not free! Much as we may deplore this fact, a fact it remains. To refuse to utilize a therapeutic improvement in this account would be to cut off the patient's nose to spite the promoter's face. And if we use them there is little sense in excluding them from the Pharmacopeia. So long as we prescribe his wares, the promoter cares very little whether we give them official recognition. On the other hand, admit the best of the strictly scientific protected articles of each class to the Pharmacopeia, making exclusively pharmacopeial prescribing a practical possibility instead of a Utopian theory, and you will have made it an object to the promoter to be strictly scientific, by giving him a real advantage over his unscientific competitors.

It may be urged that this is unethical; that it would overload the pharmacopeia; that it would hold out too strong financial inducements. To these objections I would reply that there is no violation of the principles of scientific ethics and that altered circumstances alter practical ethics. Much of the dreaded overloading might be saved, here as elsewhere, by group-headings; and, after all, the number of important "discoveries" which would survive a careful, scientific scrutiny and discounting of any fictitious value of advertising, and of the lure of novelty, is not so large as to excite alarm—at least my service on the Council on Pharmacy and Chemistry of this Association has so impressed me. And it has also impressed me with a healthy optimism as to the probable attitude of such a committee toward outside influences, especially when the responsibility could not be hidden behind secret deliberations or behind a large committee. I may add that this suggestion is not at all revolutionary, for it was publicly advocated by Professor Rice in the admirable paper to which I have already alluded.[2]

THE NATIONAL FORMULARY.

Until quite recently the National Formulary was a modest, unobtrusive, harmless and really useful little book, compiled by the American Pharmaceutical Association primarily for the benefit of Pharmacists, purposing to give working formulas for such preparations as the pharmacopeial revision committee did not care to father—elixirs, cough syrups, shot-gun prescriptions, etc.—a book in which the tottering great-grandmothers of the materia medica were resurrected from their well-earned sleep in the therapeutic graveyard, to join in a merry dance with the lusty and vociferous youngsters of the modern therapeutic yellow press; with here and there a healthy débutante waiting bashfully for the favorable notice of the revision committee.

Altogether, the spirit of the book adhered pretty closely to the motto: "For those who like this sort of thing, this is just the sort of thing they like." This was the kind of unpretentious, irresponsible but useful existence from which the National Formulary was suddenly roused by its federal recognition as a legal standard. It had aimed at nothing higher than to supply a popular demand, uncritically and blindly; and suddenly found itself set up as a leader for this very demand. The position is in many ways highly anomalous. These are problems, however, which do not concern the medical profession and that is my principal reason for pointing them out.

There is no doubt that preparations such as those listed in the National Formulary are used by the profession as well as by the laity; and thus there is a legitimate need for such a book, which it well meets. There should be definite and legalized standards of strength for such preparations, although the working formulas and flavoring of the National Formulary should in practice be made optional with the manufacturer. To this extent the National Formulary deserves encouragement, and if the American Pharmaceutical Association so desires, the American Medical Association could authorize the Council on Pharmacy and Chemistry to act as an advisory committee to whom such questions as doses, the desirable strength of mixtures, or obvious therapeutic incompatibilities might be referred. Further than this, however, we should not go. The medical profession should emphatically decline to share in the responsibility for a book so professedly uncritical as the National Formulary, by its very nature, must be.

In conclusion, I feel very sincerely that I must ask pardon for my presumption in occupying so much time in the discussion of matters in regard to which I am distinctly an outsider. I wish to assure you, however, that I did not undertake the matter lightly, but after much serious thought and hesitation, not because, as Professor Remington has said, "If any man wants a subject for discussion, and one which he can hit with safety, there is always the Pharmocopeia." My motive has been the conviction that all the preaching in the world will not and can not make the Pharmacopeia the practical standard of medical prescribing so long as the revision committee adheres to its present ideals and methods. The ideals and methods which I have laid before you can only be realized by the practical cooperation of the medical profession. In less than two years the pharmacopeial convention meets. If you agree with all or part of what I have said you have a personal duty to discharge, and it was the sense of my own share in this duty which has prompted me to address you on this subject. My personal inclination would have been for almost any other subject.

Experimental Reproduction of Whooping Cough.—W. N. Klimenko reports in the *Centralblatt für Bakteriologie*, Oct. 10, 1908, that he has succeeded in cultivating the Bordet-Gengou bacillus from the catarrhal secretions of children with whooping cough, and with it has reproduced the disease in 48 young dogs and in monkeys, afterward cultivating the bacillus again from the secretions of the animals. It was in 1906 that the Belgians, Bordet and Gengou, announced the discovery of a bipolar bacillus in the first week of pertussis, which they regarded as the causal germ. Klimenko found this same germ in 80 per cent. of 76 children in the first week of whooping cough, while the findings were constantly negative in 50 healthy infants and in patients with other various affections. The period of incubation in the experimental pertussis ranged from two to six days, and the duration of the disease averaged 48 days. Bordet found a specific amboceptor for this bacillus in the serum of children convalescing from pertussis.

THE NEED OF MORE INTIMATE KNOWLEDGE OF THE U. S. PHARMACOPEIA AND THE NATIONAL FORMULARY AMONG PHYSICIANS.*

JAMES M. ANDERS, M.D., LL.D.
Professor of Medicine and Clinical Medicine in the Medico-Chirurgical College.
PHILADELPHIA.

There is need of a sober viewing of the question of pharmacy in its relation to medicine. While these two professions are engaged to an extent in different fields of observation and practical work, they have many interests in common, and it is especially in behalf of those higher ethical principles on which real progress depends that joint meetings and free discussions of the natural lines of contact will prove mutually strengthening and result in a real gain to mankind. Indeed, the program of procedure has been already outlined, and men with definite convictions, beliefs, hopes and aspirations for better things, have enlisted in the movement under the general direction of the American Medical and American Pharmaceutical Associations, and it is fitting that this section should have been fixed on as one of the principal centers for the consideration of subjects affecting so vitally the present and future welfare of both medicine and pharmacy.

I realize that the subject which I am about to discuss must be approached carefully and calmly, and also that in emphasizing the importance of the utilization of the U. S. Pharmacopeia and the National Formulary in the practice of medicine, nothing is to be gained by extravagant claims or unreasonable statements. I can only hope (and I believe) that the result of my recent experience and investigations into the question may be of assistance to other practitioners. Admittedly, no member of our profession is deserving of censure who honestly strives to bring to his aid in the treatment of disease all the therapeutic adjuvants at his disposal. He should, however, make thrice certain that he is weaponed with reliable instruments. Such a course would exemplify a proper appreciation and respect for scientific pharmaceutics. The time has come to recognize the fact that a reform movement among pharmacists is now, and will be as time passes, in progress, working through the American Pharmaceutical Association and its numerous branches. A parallel movement with a view to meeting the requirements of the higher ethical standards and improved conditions generally in the medical profession has been brought about in recent years, chiefly through the efforts of Dr. George H. Simmons, editor of The Journal, Dr. Frank Billings, Dr. McCormack and other individual members of the Association, the work of the Council on Pharmacy and Chemistry, and of the Council on Medical Education of the American Medical Association, and the passage of the federal Food and Drugs Act.

It is safely within the limits of strict justice and truth to remark that legitimate pharmacy has been grossly neglected by the medical profession during the past quarter of a century—a period during which physicians have been depending largely on proprietary preparations and "secret nostrums," and in which there has developed a stolid indifference to ethical obligations. The propaganda in favor of the U. S. Pharmacopeia and National Formulary will be productive not only of cordial relations between these two professions, but through their collaboration the warfare already begun will be carried to a victorious issue. The ultimate aim of such a union of forces should be to overthrow, by effective legislation and in other ways, all quackery, charlatanism, the "club practice" evil, unethical proprietaries and secret nostrums. To this end there should also be a public awakening—a prevailing demand for absolute publicity as regards the composition and therapeutic application of the physician's armament.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

In general, education of the medical profession in the importance of the information to be derived from a careful study of the U. S. Pharmacopeia and the National Formulary is a leading consideration and one which should not be ignored. It is certain that the advantages to be gained from such a course in the past have not been appreciated, principally because of the prevailing ignorance in regard to the contents of these authoritative works. Indeed, the present unenviable situation and the shortcomings of the medical world in relation to pharmaceutics are largely the result of the errors of the past, especially in the direction of a dominating tendency to employ proprietaries and secret nostrums. The profession had lost sight for a considerable interval of time of the successive achievements of the geniuses to which the science of pharmacy owes its being. For their wisdom and the unselfish, steadfast devotion of superior endowments to the highest interests of the medical profession, these men are worthy of the most distinguished recognition.

It may, however, be justly claimed that at present the medical profession of America is slowly and gradually recovering from the debauched condition into which it had fallen in consequence of the wide use of proprietary remedies, and what is even more regrettable, illicit combinations between certain of its members and those manufacturing druggists who pursued dishonorable methods.

The time, therefore, is ripe for direct, pointed statements concerning the lack of studious attention on the part of the medical profession to the U. S. Pharmacopeia and the National Formulary. If physicians were to inform themselves more fully on the reliable facts and data contained in these books they would appreciate their superior advantages in practical therapy. It is universally admitted that the U. S. Pharmacopeia has been edited and revised by men who by training are entirely competent to accomplish the task in a thoroughly scientific, trustworthy and acceptable manner. Its teachings form one of the truly important foundation-stones of rational therapeutics.

Physicians may rest assured that the preparations to be found in the U. S. Pharmacopeia are to be preferred, as a rule, to the newer, untried, unofficial preparations exploited by pharmaceutic chemists and manufacturers. On the other hand, there are certain synthetic proprietary articles in general use and widely approved by the best element of the medical profession; and a selected few of these might be advantageously introduced into the U. S. Pharmacopeia.

The adequate training of the physician of the future will demand an acquaintance with the contents of the volume under consideration. "The undergraduate's knowledge of the subject-matter need not extend beyond a complete summary, but this he should have with a view to stimulating his subsequent interest in this branch of practical medicine. In medical schools in which the professors of materia medica and therapeutics are authors of works on these subjects, it is proper and advantageous for the students of such schools to adopt them as text-books, but under these circumstances teachers should avail themselves of the opportunity to force conviction on the minds of students as to the importance of the U. S. Pharmacopeia as a work of reference and post-graduate study. I have examined carefully the catalogues of the regular medical colleges of this country, numbering 144, and found that of these sixteen have recommended the U. S. Pharmacopeia, while one mentioned the National Formulary."[1] The figures indicate conclusively the lack of sentiment among medical educators favorable to the important matter of instructing students of medicine "as to those portions of the U. S. Pharmacopeia which are of value to the practitioner." The adoption of measures to bring about a more general use of this work in the training of undergraduates is to be advised and encouraged. It is gratifying to record that at an informal conference called by Prof. J. P. Remington of the teachers in the medical schools of Philadelphia, the following resolution was passed:

> *Resolved*, That it is of the utmost importance for accuracy in prescribing, and in the treatment of disease, that students of medicine be instructed fully as to those portions of the United States Pharmacopœia which are of value to the practitioner, and that members of the medical profession be urged to prescribe the preparations of that publication, and, further, that this resolution be forwarded to the medical and pharmaceutical journals, and to the teachers of medicine and therapeutics in the United States.

The motto for the recent graduate should become "Publicity and open dealing, the while prescribing the preparations of the U. S. Pharmacopeia."

I am ready to grant that natural conditions and means are assuming more and more importance in combating human ills. And while drugs have been practically abandoned in the treatment of certain diseases, notably tuberculosis, they have a distinct sphere of usefulness; and the decadence of the use of drugs on account of the rapid progress made by the science of hygiene in recent times is no good reason for careless ness and indifference in regard to their quality and ability. The medicinal agents employed by the physician then still form an important part of the physician's armamentarium, so long as he can depend on their proclaimed composition. It is obvious that from this point of view too little intelligent discrimination has been exercised in the selection of medicines in the past. Hand in hand with the progress of knowledge concerning the action of drugs on the human economy must go definite and accurate knowledge of the composition of the substances used in the treatment of disease. It is in this connection that the U. S. Pharmacopeia and National Formulary would contribute materially to future medical progress if they were made the subject of universal study and consideration among the physicians of the United States. It is earnestly hoped and believed that the rational outcome of the present movement which seeks to abandon indefinite, uncertain and variable preparations, will effect an increasing tendency to the use of the more reliable and unchanging preparations of the U. S. Pharmacopeia.

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[1] Anders, J. M.: The United States Pharmacopeia from a Physician's Standpoint: Monthly Cycl. Pract. Med., May, 1908.

As a means of familiarizing physicians with these works I would strongly recommend future joint meetings between the many branches of the American Pharmaceutical Association and local medical societies. United action, if properly directed and maintained, would serve to promote materially the interests of scientific pharmacy. We have arrived at an era in the history of American medicine at which the trained pharmacist and the physician can each render important service to the profession of the other if granted a favorable opportunity.

Moreover, it is fitting that the medical profession should pay just tribute to the significance of the service which the National Formulary is rendering both to practitioners and to the larger public.

I find that many physicians are not acquainted with the contents, objects and meaning of the National Formulary. For the benefit of this class it may be pointed out here that this neat volume contains many excellent formulas for preparations, none of which have been as yet introduced into the U. S. Pharmacopeia, but which were formerly made after different formulas (in different sections of the county and also in the same city), and have come into established use, but have been brought, after much experimentation and labor by the committee on National Formulary of the American Pharmaceutical Association, to a common, authoritative standard. The above-named committee having accomplished the stupendous task set before it with success, it behooves the medical profession to cooperate whenever possible by accepting the formulæ contained therein, "instead of designating any special maker's product." It is not my intention to advocate the use of the National Formulary to the exclusion of prescriptions written at the bedside to meet the indications presented by individual cases, to which preference is to be given in the majority of cases.

It may well be asked why learned members of the profession should permit the use of their names by manufacturers of preparations foisted on the market solely for commercial reasons. Again, why should the information given to the medical profession by these manufacturers be regarded as authoritative and convincing by the rank and file of the profession? Wiley[2] has well said:

> We have reached a stage in the evolution of therapeutics and practice in which the physician can take a firm stand. There are plenty of remedies of known character to employ his entire skill and to furnish the munition of his therapeutic armament. There can be no excuse, therefore, for the recommendation or prescription of the secret, fake or unknown proprietary remedy.

In this connection of particularly evil omen for the attainment of this most desirable state of affairs is the strong tendency, already emphasized, to prescribe proprietaries. Physicians are too apt in prescribing to be controlled by motives of convenience, using the remedies that are brought to their attention and exploited by convincing hired agents, instead of taking the precaution and trouble to acquaint themselves fully with the official preparations so abundantly to be found in the United States Pharmacopeia and National Formulary. As a means of counteracting this subtle, widespread, yet influential tendency, a more intimate knowledge of the contents and aims of the United States Pharmacopeia and National Formulary would, I strongly believe, prove efficient.

The intention of the present paper is not to present a laudatory account in ornate phrases of the works under discussion, but rather to eradicate the curious notion which numbers of physicians of this country have that what is of first-rate therapeutic value is to be found outside, among the newer, unofficial preparations. If physicians could be induced to devote more of their energies to the study of the remedies that have stood the test of time a more healthful, robust, therapeutic tone would be the inevitable result. I am pleading for a spirit of unity among the members of the American Medical Association regarding this important question.

THE PHARMACOPEIA AS A LEGAL STANDARD.*

H. W. WILEY, M.D.
Chief, Bureau of Chemistry, U. S. Department of Agriculture.
AND
L. F. KEBLER, M.D.
Chief, Drug Division, Department of Agriculture; member of the Council on Pharmacy and Chemistry of the American Medical Association.
WASHINGTON, D. C.

Many years before the publication of the first edition of the United States Pharmacopeia it was recognized by the leaders of the medical and pharmaceutical professions that standards for potent well-known drugs were highly desirable, if not absolutely necessary for the proper treatment of human ailments. Tangible evidence of this feeling was manifested by the publication of a number of books by various authors which contained standards or descriptions of drug products of much value. The first edition of the Pharmacopeia appeared in 1820 and was immediately voluntarily accepted as the proper guide by both professions. Successive editions appeared decennially; and Congress in 1848 recognized this authority as the legal standard for drugs imported into the United States in the following language:

> If, on examination, any drugs, medicines, medicinal preparations, whether chemical or otherwise, including medicinal essential oils, are found, in the opinion of the examiner, to be so far adulterated, or in any manner deteriorated, as to render them inferior in strength and purity to the standard established by the United States, Edinburgh. London, French, and German pharmacopeias and dispensatories, and thereby improper, unsafe, or dangerous to be used for medicinal purposes, a return to that effect shall be made on the invoice, and the articles so noted shall not pass the custom-house, unless on a reexamination of a strictly analytical character, called for by the owner or consignee, the return of the examiner shall be found erroneous, and it is declared as the result of such analysis, that the articles may properly, safely, and without danger, be used for medicinal purposes.

The necessity of thus recognizing the Pharmacopeia had been emphasized by numerous investigations of medicinal agents which showed that a great number of inferior articles were imported into the United States. These examinations were largely stimulated by the activities of the Philadelphia and New York colleges of pharmacy. The latter repeatedly called attention to the fact that large quantities of sophisticated and misbranded chemicals and pharmaceutical preparations were being daily imported. Attention was also called to the fact that a great variety of inferior drugs were passing the custom-house and that every possible effort should be made to prevent their introduction into this country. An examination of the conditions then existing showed that this country was considered the dumping-ground of Europe.

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[2] The Journal A. M. A., Nov. 9, 1907.

* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Soon after the enactment of the above law it was found that there was a lack of standards or methods for determining standards which made it difficult for the customs officials to enforce the law judiciously and satisfactorily. The descriptions contained in the Pharmacopeia were not sufficiently accurate and detailed to cause the detention of certain drugs of inferior quality; the construction of various sections of the book was not the same at the different ports; consequently action was not uniform.

On learning of these difficulties the various members of the pharmaceutical profession decided to assist in adjusting these annoyances by calling a convention of the colleges of pharmacy in New York City. The general belief prevailed that the law was ample to regulate the admission of adulterated drugs, but that additional standards were required. After full discussion the convention adopted standards for ten drugs which were forwarded to the Secretary of the Treasury with the recommendation that they be generally adopted so that uniformity would obtain at the various ports. These standards were accepted and proved highly beneficial.

This is the beginning of the adoption of actual legal standards for medicinal agents in this country. These standards proved highly beneficial and provided stimuli for the formulating of standards of other drugs and enlarging the scope and usefulness of the Pharmacopeia. During the past twenty-five years many state laws have been enacted which prescribe the Pharmacopeia as a legal standard. With few exceptions, however, little attention was given to drugs by state officials, and manufacturers and dealers were indifferent to the standards contained in this book and the activities of the state authorities. Many dealers advertised their own standards, which were arrived at by methods known only to themselves, thus making it very difficult for analysts to obtain the same results as those claimed.

June 30, 1906, this excellent authority of standards for drug products was officially recognized by the Congress of the United States in the passage of the Food and Drugs Act. Soon after its enactment the standards and methods of the Pharmacopeia were critically examined and tested by all affected. Defects, inconsistencies, unreasonable and improper standards were found in abundance. Never before was so much interest displayed or a book so critically studied. Numerous changes were insisted on and great pressure was brought to bear on the committee of revision by correspondence, personal interviews, etc., with what success can readily be seen by the number of corrections printed a year ago. Some of these changes were undoubtedly desirable, but in some cases the standard was materially lowered, and in other cases the tests were modified so as to render them inefficient. For example, it has been found that the modified test for detecting gurjun balsam in balsam copaiba is so inexact as to permit the adulteration of the latter with at least 35 per cent. of the former without the possibility of detection. Excellent as are some of the standards and descriptions contained in the Pharmacopeia, it should be pointed out that in many cases no provisions are made for excluding or permitting the admixture of any stems, sticks, sand or other extraneous and inert material with leaves, berries, bark or seed in either the whole or powdered state. For example, it is common to find from 15 to 20 per cent. of sticks and stems mixed with buchu leaves. The same is true of cubeb berries. Powdered drugs are adulterated with large amounts of sand, ground olive stones and inert foreign plant tissue. The adulterations in all cases here considered are so gross as to preclude the idea of accidental admixture. Various roots, seeds, leaves, etc., are at times mixed with inferior and spurious roots, leaves, seeds, etc. To what extent these foreign and inferior articles modify the physiologic action of the drug is undeterminable. The question frequently arises as to the advisablity of permitting the use of such admixtures. It is certain that if a preparation made from a crude drug of fine quality possesses certain therapeutic properties, the same physiologic action could not be expected from a product made from drugs sophisticated in devious ways. As an example, digitalis leaves of the second year's growth possess well known therapeutic properties, but the leaves of the first year's growth are supposed to be devoid of any material activity and the question naturally arises whether it is wise or advisable to deny entry to an importation consisting of a mixture of both of the above named leaves. In our opinion nothing should be left to chance with so important and valuable an agent as digitalis. No physician knowingly would jeopardize the life of his patient by employing this drug or any preparation made from it which he had any reason whatever to believe in any way deficient. He prescribes on the basis of a pure, efficient drug.

While the same argument may not apply with equal effectiveness to some other drugs, it is apparent that the therapeutic action would be modified to the extent that the drug is adulterated or of inferior quality.

Section 11 of the Food and Drugs Act reads in part as follows:

> " . . . and if it appear from the examination of such samples that any article of food or drug offered to be imported into the United States is adulterated or misbranded within the meaning of this act, or is otherwise dangerous to the health of the people of the United States, or is of a kind forbidden entry into, or forbidden to be sold or restricted in sale in the country in which it is made or from which it is exported, or is otherwise falsely labeled in any respect, the said article shall be refused admission. . . ."

The personnel of the Pharmacopeial Committee of Revision is such that their final acceptance and fixing of a standard for any drug product should be final. Any other construction placed on this authority would lead to endless confusion.

Under the above quotation from Section 11 we are firmly of the opinion that any article recognized by the United States Pharmacopeia which deviates from the standard set by this authority is improper, unsafe and dangerous for medicinal purposes, except in such cases where the product is used in the manufacture of articles which are subsequently standardized, or for the manufacture of certain definite principles, such as strychnin from nux vomica. Even in cases where the crude drug used in the manufacture of the preparations which are subsequently standardized is so debased or of so low a standard as to preclude its use in the manufacture of pharmacopeial products it will not be considered as coming within the limits of the above statement. We are further of the opinion that a drug product which is forbidden to be sold or restricted in sale in the country in which it is manufactured or from which it is exported should be refused admission to the United States under this section. Any drug which is not good enough in the country of production or exportation for the treatment of its own people is certainly not satisfactory for a medicinal agent in the treatment of the people of the United States.

At present both the medical and pharmaceutical professions are making strenuous efforts to eliminate from their medical armament worthless and questionable remedies and are constantly turning their attention to the pharmacopeial products. The claim is frequently made that articles prepared according to the methods and formulae described by the Pharmacopeia are not uniform and it is believed by many that this non-uniformity is largely due to the initial character of the crude drugs used.

RESPONSIBILITY OF THE MEDICAL PROFESSION FOR THE USE OF NOSTRUMS.*

C. F. WAHRER, M.D.
FORT MADISON, IOWA.

In speaking of the shortcomings of the profession to a colleague some time ago he remarked, "Don't abuse the profession; we get enough of that from the old women and other enemies, most of which is unjust; but where it comes from you it comes doubly hard." My answer was and still is, we must begin reforms among ourselves before we attempt reforms among others, and as long as we repeat our sins my motto is: "Lay on Macduff!" Before we sweep other people's premises let us clean up at home and stay clean. There are but few of us who do not know the evils of the nostrum trade, both to ourselves as well as to the poor victims who suffer from it, yet do we not aid and abet this very evil? While there are but comparatively few of us who openly prescribe or dispense the so called "patent medicines," such as Jayne's Expectorant, Ayer's Cathartic Pills, Harter's Iron Bitters, or Pink Pills for Pale People, yet I heard a regular physician once lay great emphasis on the value of McLaine's Indian Root Pills or Wright's New Life Pills, both of them rank nostrums. There are thousands of doctors all over our country who prescribe or dispense stuff no better in quality and no better as far as the secrecy of the preparation is concerned.

It is a sad but too true comment when I say that more than half of the medical profession—including the best there are, professors in medical colleges even—prescribe remedies, the composition of which they are absolutely ignorant. Why do they do it? Is it because they are taught to do so while attending medical college in their studies in pharmacology and therapeutics? No? Why, then? It is because pamphlets and samples distributed by a wily, smooth-tongued detail man, who has learned to say his piece, has drummed this perverted system of therapeutics into vacant brains. It is like selling gold bricks or oil stocks; one man says thus and so, and one hundred men believe him.

When these "easy marks" look for the formula they don't find it—or find only a part of it, something like the following: Each ounce represents (not contains please remember, it *represents*) the active principles of peruvian bark, columba, crampbark and numerous other ingredients with aromatics so combined as to form a palatable preparation of the highest efficiency for the cure of all ailments of women, and it is especially useful in dysmenorrhea, amenorrhea, menorrhagia, metrorrhagia and all ovarian and other sexual irregularities and disturbances. Now, isn't this just what we all need and what we have all been looking for?

Well, it will sell; hundreds of physicians will buy it and try it on their patients, because the manufacturer sends samples prepaid or sends his salesmen, who say they are selling lots of it and that it is a good seller. Dr. Jones of Smithville has given an order for twenty gallons of it—and Dr. Smith of Jonesville wouldn't do without it and he is "making money hand over fist" out of it. While he is talking and getting the medical man jealous of Smith and Jones the physician forgets all about asking what the stuff is made of. Now I will ask: Who made and devised this wonderful formula? And in case the physician did ask or write for the formula he was merely told each ounce *represented* so much of so-and-so. For instance, to show how "muddling clear" this all is: Opium may be represented by morphin, narcein, dionin, codein, meconin, heroin, thebain or one or two or more of them! How would apomorphin do, for instance? Is digitalis represented by digitalin, digitalein, digitoxin, digitonin or what? I presume principally by what! And that will answer the purpose, will it?

But this is not the worst by any means. What does your patient get when you give him antikamnia? The company in St. Louis tells you *anti* means *against*, and *kamnia* means *pain;* so you are giving something that means pain killer. But I ask again, what is it? You don't know, yet you use it in your practice and advertise it, because every tablet has "A K" on it "so you will know that it is the genuine." I dare say more of this heart poison has been prescribed by the rank and file of the profession and medical college professors, who wrote testimonials endorsing it, than all other semi-proprietaries combined, yet no man knows to-day what's in it so far as their literature reveals to us. Aren't some of us ashamed, and if not, why not? I said no one knows what's in antikamnia. By analysis we are fairly sure that before the enactment of the Food and Drugs Act it contained in various proportion acetanilid, sodium bicarbonate, caffein and probably some citric acid. But now they are compelled by law to state that each package contains a certain amount of acetphenetidin, the pharmacopeial name for phenacetin. They also combine it with quinin, so you can write a prescription for "A K & Q," also with codein, so you can tell your patient to go to a druggist and get a dozen of "A K & C," etc.

How many times do you suppose any of your bright patients will return to you and pay you for telling them, or prescribing for them, those wonderful tablets with "A K & C" on them, that cured their headaches or coughs, or rheumatic pains, or moved their bowels, when they took "A K & C" with cascara? Not very often, when all they need is to save one of those embossed tablets and present it at the drug store with the request they want "ten cents more of those." Why do you blame your patients when they quit you? They not only quit, but they divide their "A K's" and "Q B & S's" and other embossed cure-alls with their suffering neighbors while detailing their ailments over the back fence. You have sown the wind, now reap the whirlwind; you have boomed Scott's Emulsion, allowed it to go to your patient with fifty pages of "literature" wrapped around it, till they know just how and when to use it, till it became a household word, and they come no more to you for a prescription. The makers know it, too. They no more care a rap whether the doctors prescribe it or not. They have become millionaires, advertised it on fences and out buildings and in the daily papers, among "youthful indiscretions," "lost manhood" and "female regulators." Can you figure out why your practice is not what it used to be? After you have made the discovery, pass it along to some other fellow who has lost his where—am—I—at. Then before old age overtakes you hunt up your materia medica, your book on therapeutics, where you left off in school twenty or thirty years ago, and learn to prescribe standard preparations that will give you results at less than half the price. Don't try remedies on your patient, something of which you know and more of which you know you don't know, and then expect results. If you are sure your patient needs strychnin give it in 1/60, 1/30 or 1/20 grain doses every three, four or five hours, then you ought to get definite results. If you want to give quinin, give the exact amount your judgment dictates at stated intervals, and you have a right to hope for definite results. Don't give Dad's quinin, bromo-quinin or a similar mess, because you don't know what either of them is, and can't expect any definite results. If you want to give a mixture of quinin, strychnin and digitalin, give a certain amount of each at regular intervals. Don't use instead an unknown mixture which the label says represents the active principles of Peruvian bark, nux vomica and foxglove, because even if the label is truthful you don't know what active principles were selected by the maker or whether any were used at all.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908

I have lectured extensively on this matter and on the object of food adulterations, and the more I study the subject the more I am convinced that I am making no overstatement but am merely touching the high places. My friends from the metropolitan centers may claim these things are only true of country doctors and small towns. No greater error exists. Go into any popular, first-class drug store in New York, Philadelphia, Boston, Chicago, San Francisco, New Orleans or St. Louis, places to which fashionable physicians send their prescriptions, and you will be astonished at the large percentage of prescriptions that contain secret or semisecret, ready-made preparations with meaningless names, the formulas of which are unknown or but partly known to the prescriber. A physician of high standing, a former professor of obstetrics in a state university medical college, wrote a prescription containing haarlem oil, satyria and neurilla. He did not know the component parts of any one of the three items. Another wrote a prescription forming a horrid mess, containing acetanilid, antikamnia, quinin sulphate, sodium salicylate, tincture of the chlorid of iron and yerba santa compound. The patient had an acute attack of influenza with rheumatic pains, and this wise doctor was going after all the sore spots in his patient, so as to be sure to make a hit somewhere. It was a villainous mixture of known and unknown stuff, but the patient had sense enough to refuse to take it. Go into any drug store and notice how the shelves of the prescription department are literally groaning under the weight of the proprietary semisecret remedies, almost to the exclusion of the simple, standard, well-known remedies.

To make this matter concrete, I went into one of our best and most popular pharmacies, and by the courtesy of the proprietor I found the following, to show you merely as an example of hundreds of others. In one group stood listerine, crystalline, pasteurine, glycothymoline, glyco-benzole, formalyptol, thymoline, euthymol, thymoliptine, borolyptol, Wampole's antiseptic solution, therapogen and many more imitations, all of which could be easily supplied at less than half the cost by the Liquor Antisepticus of the U. S. Pharmacopeia. All of these the druggists must have on hand, to satisfy the whims of the different physicians who don't care to take the trouble to inform themselves that all these so-called antiseptics are practically identical, answer the same purpose, and but few of them are any better than a saturated solution of boric acid, worth ten cents a pint; and nearly all of them are semisecret. Another instance. There is uric antagon, whose label says it contains the *active* principles of phytolacca dec., seranoa serrulata, styllingia sylvatica, cimicifuga rac., and aconitum napellus a mere trace, not enough to depress the heart. This is sold you as a uric acid solvent. But you are not told how much of each ingredient it contains, nor which active principles are used. Oh, no; yours only to do as you are told.

Isn't this an insult to an intelligent profession? When the uric antagon man came to my office, I ordered him out and threatened to throw his sample out of the window if he didn't take it away. He did not wait long enough to be told twice. Then there is uriseptin, that professes on its label to cure nephritis, albuminuria, dropsy, enlarged prostate, pyelitis, retention of urine, enuresis, gonorrhea, blenorrhea, and any other sexual or urinary ailment. The label says it contains formaldehyd, lithium, corn silk, couch grass, and 6 per cent. of alcohol. No quantities are given for fear some imitator may tap their gold mine. Any physician, however, that has sense enough to prescribe for a case of chickenpox, can easily supply the quantities and have it put up at a drug store at one-fourth the price the makers ask. Tongaline (Mellier), we are told by the label, contains certain quantities of tonga, cimicifuga, salicylate of soda, colchicum, pilocarpin and 33 per cent. of alcohol. No quantity is given except the alcohol, which the Food and Drugs Act compels them to publish. A simple prescription by an intelligent physician at less than half the cost would answer at well, if not better.

Anasarcin, a tablet sold by a Tennessee firm, and Anedemin, a similar one put out by another firm, are both sold at fabulous prices. They contain sourwood, squills and elder flowers and are easily replaced by a tablet made by any reputable firm at $3 a thousand, or for about what the exploiters sell theirs a hundred. The formula given by the ethical houses for a similar tablet is, extract sourwood leaves, 2 gr.; extract elder flowers, 2 gr., and extract squills ¼ gr., which shows just what you are giving, and also shows the contents to consist of inexpensive material. In my hands they have served an excellent purpose and are a splendid substitute for the secret, robber-price goods, and I know just what I am giving.

You may say to me: Would you not have any ready-made formulas, and thus deprive us of the convenient and often efficient preparations? They are an especially useful lot of preparations to the busy dispensing physician, and some of them are not only difficult but well nigh impossible to make up extemporaneously on short notice, even by the most skilled pharmacists. This is all true, and I am myself a great friend and user and even dispenser of many of them, and recognize their convenience as well as their efficiency. But I buy them of houses that are honorable enough to give me and my patients a square deal by publishing the entire and exact formula, and selling them at prices that are fair and equitable to themselves and to me and my patients. I don't want the label to tell me merely that a certain package contains Early Risers, Little Devils, Sun Cholera Cure, Cascarets (that work while you sleep), Seng, a preparation of ginseng, Sanmetto, said to be composed of true sandalwood and saw palmetto and soothing demulcents; glycozone, whose formula is given as $C_3H_6O_4+C_3H_8O_3$, which, of course, is as clear to you as Missouri River mud. It is as plain as the two isomerics, oil of turpentine and oil of lemon. Both contain the same elements in the same quantities; yet you wouldn't prescribe the one for the other. Why, it is a deliberate insult—an effort to throw scientific sand into your eyes!

Their common atomic formula is $C_{10}H_{16}$, which also is the formula of safran, the pleasant odor of sassafras, and many other pleasant odors of the volatile group. So, you see, whenever these manufacturers offer you only the atomic formula, you can be assured they are "playing horse with you." No self-respecting physician who has the good of his patients at heart will be satisfied with any remedy that offers him a fake formula or only partial one. I now copy at random some of the labels on the bottles in my office. For instance the well-known elixir of bromid compound, or hypnotic compound; each ounce contains chloral hydrate 120 grains, potassium bromid 120 grains, extract of hyoscyamus 1 gr. and extract of cannabis indica 1 gr. This is a convenient, efficient elixir; you know just what and how much you are giving and what to expect. Is'nt this better than prescribing Bromidia, said to contain the same ingredients in unknown quantities, a scant 4 oz. bottle of which is sold for $1.00, while the elixir bromid compound with full formula sells by the best houses for $1.20 a pint. Of course, you are at once told the quality is not so good. In answer to this just ask yourself why it shouldn't be? You will at once come to the conclusion that the first class pharmaceutical houses will put, to say the least, just as fine and pure drugs into their preparations as the Keysall Co., the Antikamnia Co., the Anasarcin Co., the Rio Chemical Co. the Aetna Chemical Co. and the hundred more such people, who don't even give the names of the individuals composing the fanciful firm names behind which they are hiding. Reputable firms put up an elixir of saw-palmetto and santal compound which beats Sanmetto, put up by the Od Chemical Co., to a standstill. Reputable pharmaceutical houses offer a formula like this:

Saw-palmetto berries	120 grains.
Sandalwood	30 grains.
Corn silk	120 grains.

in each ounce of the elixir.

Now you know what this is. Can any one tell what's in Sanmetto which sells for $8.50 a dozen half-pints, while the elixir sells for $5.25 a gallon? What results can you expect when you give an unknown remedy? It is like a man closing his eyes and firing a gun promiscuously into space and then opening his eyes to hunt what he may have hit. Wouldn't it be better if he would hunt his game first, know what kind of a gun he has, know just what it is loaded with, and take careful aim before he pulled the trigger? And a good rifle is better than a scattering shotgun when you want to do precise work.

Then, also, wouldn't single remedies, preferably the alkaloids, and active principles, freed from the dirt and dross with which they are often associated in nature, be more satisfactory than crude galenicals of variable strength? Do you hesitate to answer? The formula for the old Warburg's Tincture, an antiperiodic, contained over 100 ingredients—127, I think, was the full number—of which 90 per cent. could be fully dispensed with. If you want strychnin effect, why prescribe nux vomica? If you want quinin why give the nasty, bulky Peruvian bark? If you want to give morphin or codein, why give opium? And so on, a thousand times could I give you examples only to take up your time. But a hint to the wise is sufficient.

What is the remedy? There is one, and I will tell you. Study your Pharmacopeia, your U. S. Dispensatory, your National Formulary and some modern works on materia medica and therapeutics; renew these every five or ten years. Supplement these by the best authors on practice, pathology and diagnosis, and read a few of the best medical journals — not the advertising pages only; attend your county, state and national medical societies, and you will know more medicine in five years from now than you could get in fifty years by reading proprietary medicine pamphlets and cheap medical journals, whose print isn't worth the paper used in binding.

Do you ever read in your standard books on practice, such as Osler, Flint, Anders, Tyson, Bartholow, Nothnagel, Holt and others just as good, that they recommend such slush as the *Medical Brief* has prescribed for you during the last quarter-century? What would happen to a physician who would read a paper before a decent medical society in which he would extol the virtue of such stuff as anasarcin, ecthol, syrup of figs, castoria, sanmetto, satyria, Dad's specific, exalgine, thermol, antikamnia and Micajah's uterine wafers? What would happen to him? Then why use such things? If it isn't decent to write or talk about them or recommend them, why use them surreptitiously? Can you give yourself such an answer as you would be willing to publish over your signature? I think not. In fact, I know you can't.

Now a word by way of suggestion. You may ask how you can distinguish between the good and the bad proprietary pharmaceuticals. One way is to insist on the full, complete formula. Some houses tell you they will not publish the formula on their labels, but will send it to you on request. That will not do. In the first place, they seldom do it when you ask for it; I have tried them. They usually send you a garbled formula giving only some of the ingredients. Besides, the "patent medicine" people will do the same. They will send you full and complete formula on request; in fact, the Ayer people have succeeded in getting several "snide" medical journals to carry their advertisements in which they challenge the admiration of the unwary by publishing a full formula. But we know their past record. I could give many more hints, but the best rule of all is to pay some attention to these things, and in a short time you will be able to recognize fraudulent proprietaries as quickly as a turkey-buzzard can scent a dead sheep.

Lately a very efficient source of help and instruction has made its appearance which will assist you very materially to distinguish the true from the false, no matter whether it is made in St. Louis or whether made in Germany and recommended by Doctor Herr Geheimrath von Ladislaus Ober-Schaffhausen, or it may be Mr. Updigraff-Jones of Holborn Viaduct, London. This is the laboratory reports of the Council on Pharmacy and Chemistry of the American Medical Association, whose work is recorded every week in THE JOURNAL of the American Medical Association. While some think the findings of the council may not always be final, nor their recommendations unbiased nor unprejudiced, yet it is making some people sit up straight and take notice. Every week there is given the results of examination and analysis and claims put forth by the manufacturers of certain articles such as I have mentioned to you in my paper. Recently they discussed Kutnow's Powder, probilin, the active principles of ergot, Dr. Robert's very ethical (?) hydrocine, the "positive consumption cure," vin mariani, the organic irons and others. Whatever you may think of their conclusions, you can't help acknowledge that you were instructed and interested. This alone will prove a death blow to quackery.

One thing is certain, there is no good reason why proprietary manufacturers of secret and semi-secret medicine shall wax fat at your expense and that of your patients, while some of you can scarcely make a decent living, clothe yourself and wife and children properly, and educate the latter as becomes their station; while farmers, bricklayers, carpenters and street sweepers are laying up money at an expense and outlay simply of muscle.

A learned and exalted profession must ever maintain its self respect in order to command the respect of others. As social factors in the world's progress, as heralds of good tidings of a better life, as scientific exponents of a higher civilization, in stamping out disease, epidemics, pests and contagion, as carriers of the gospel of health and happiness into the remote portions of the earth, as advance agents of the higher creed of humanity, the medical profession stands first and foremost and second to none.

As such we can ill afford to play second fiddle to a lot of nostrum fakers. Let us be worthy of the high place our profession has ever occupied among the people, and what we have not yet attained that we deserve; let us demand it by reason of our usefulness, our conduct with our fellow men and our self respect.

In the language of one of the immortals, let me admonish you—

> "This above all: To thine own self be true;
> And it must follow as the night the day,
> Thou canst not then be false to any man."
>
> —Shakespeare.

1007 Fifth Street.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. SOLLMANN, ANDERS, WILEY AND WAHRER.

PROF. JOSEPH P. REMINGTON, Philadelphia: At no previous meeting of the American Medical Association which I have attended has the subject of the U. S. Pharmacopeia been given so much attention. I was present at the very first meeting of this Section, to which a few representatives of the American Pharmaceutical Association were invited by the American Medical Association. At that time the meeting was very small; sometimes five or six, sometimes I think two were present, the chairman and the secretary. This discussion on the United States Pharmacopeia shows an intense interest in this work. To awaken an interest in the U. S. Pharmacopeia in the past, papers have been read here in the American Medical Association and before medical societies all over the United States, and in the Convention for the Revision of the Pharmacopeia the members of the medical profession were asked and begged to come to the meetings. The fact remains that the members of the medical profession have not cared for the Pharmacopeia in the past. But they are coming now. To many of Dr. Sollmann's suggestions in regard to the method of revising the Pharmacopeia I can say amen. Few pharmacopeias are revised oftener than once in ten years. The French Codex is sadly in need of revision, but they are at work at it now. So far as the time of revision is concerned, the United States is not far behind other nations, but in all foreign countries the pharmacopeias are legal standards, and the U. S. Pharmacopeia was not made a legal standard until the Food and Drugs Act of June 30, 1906, made it such. The Committee of Revision has been approved by the government. My secretary has half a peck of commendatory letters from many sources; some say that the method of revising the U. S. Pharmacopeia is the best that has been devised. It is curious that many Americans want to change the method of revision while Dr. Tyrer, the president of the British Pharmaceutical Conference, says that the United States Pharmacopeia is better than theirs. I think that the majority of the Committee of Revision would vote for a revision once in five years. The Board of Trustees of the Pharmacopeial Convention have already expressed themselves in favor of a more frequent revision. It has also been proposed to revise the Pharmacopeia once in three years; but such a pharmacopeia would be a menace to the makers of all kinds of preparations and would encounter a great deal of opposition because three years is too short a time to test fairly the various preparations. It would certainly cause great confusion in the medical profession. Physicians would no sooner become used to a preparation and learn how to use it than they would find that it was either abandoned by a new Pharmacopeia or its strength changed, and they would have to forget the old and learn the new. The United States Pharmacopeia revised only once in ten years is not known as it should be. It seems to me that the good middle ground of five years would be most satisfactory. It is true that a supplement was issued to the French Codex, the British Pharmacopeia and others. There is a great disadvantage about supplements in the back part of the book, namely, that they are apt to be overlooked. A great many men use the Pharmacopeia as they do a dictionary or encyclopedia, since subjects are arranged alphabetically and the index is ignored. If a revision were made once in five years, however, there would be no need for a supplement.

I was sorry to see in one of our western publications an allusion to the Star Chamber method of conducting the work of the revision of the Pharmacopeia. A work of such magnitude as this involves grave responsibilities. Every effort was made to find the will and the wish of the greatest number. There was no secrecy whatever about the work. The most modern methods were used in order to obtain the opinions of individuals and organizations and to arrange the information when obtained. The whole matter was then thoroughly sifted by the chairmen, the subcommittees and the general committee. It must be remembered that the committee is confronted with an enormous task in deciding between various earnestly advocated preparations and modifications. Laboratory work has been used most largely; the committee and subcommittees have had processes tried repeatedly by many workers and experts. Please remember that the U. S. Pharmacopeia can select only one method as a rule. It is impossible to satisfy all who are interested. A committee should be appointed in whom faith can be reposed and the responsibility should be left to them. Some one recommended that every proposition affecting the Pharmacopeia be submitted to the county medical society of each county in each state. they to consider the subject and to forward their decision to the Committee on Revision. Now how long will it take to issue a Pharmacopeia after hearing from every county society in every state in the union? If that is done the next Pharmacopeia might be issued in 2016. Dr. Sollmann advocated publishing conclusions every four months. Could the Pharmacopeia be issued in three years under those conditions? Is it possible to get out a book in three years when all these propositions are to be laid before the country in advance? But the suggestions and propositions are now in order for the next revision. Let the committee settle them as far as possible. It is not generally known that the U. S. Pharmacopeia is controlled by a Board of Trustees and that the U. S. Pharmacopeial Convention has a charter from the United States. Its officers are permanently charged with the duty of revising and issuing the U. S. Pharmacopeia. A remark was made implying that the assignment of work had been done hastily. Twenty-six members composed the Committee on Revision. It took fully six months of the most careful painstaking effort of Dr. Charles Rice, the former chairman of the Committee of Revision to arrange and assign work to the members of the fifteen subcommittees. Then, again, delay was caused by the death of some of the members and consequent reorganization. The idea of placing more dependence on the chairmen of the subcommittees is certainly an excellent one. No doubt there will have to be radical changes in the work of the Committee on Revision. If revision is made every five years it must necessarily mean a change in the construction of this committee. The plan on which the work is conducted is one devised by Dr. Rice a number of years ago. It required approximately 2,260,000 words used in general committee official correspondence alone. But the chairmen of the subcommittee as representatives should be given more influence in the general committee than other members because of their greater special knowledge. The Committee on Therapeutics was charged with the duty of reporting on the admission or exclusion of drugs. Exclusion is as important as admission. When a preparation is expunged the committee is going to hear in no uncertain tone from the men who have used it for years and years because the Pharmacopeia is for use in Georgia or California, as well as in Chicago or Washington. The whole country must be considered.

Let us welcome every suggestion that can be made for the improvement of the Pharmacopeia. The Committee on Revision and the Board of Trustees have not and never had the remotest intention to slight or ignore the physicians of this country in the work of revision. In the constitution and by-laws of the U. S. Pharmacopeial Convention ample representation is given to the medical profession. I know that on May 2, 1910, when the next Pharmacopeial Convention meets in Washington the members of the American medical profession are going to be there and we are not going to be troubled with lack of interest hereafter.

Mr. M. I. Wilbert, Philadelphia: I believe that the pharmacists of this country are to be congratulated on the fact that the members of the medical profession have again awakened to their duty in relation to the Pharmacopeia. If medical practitioners will but study the history of the Pharmacopeia they will take an even more active interest than is present indicated. While it appears that there is but one pharmacopeia which has been revised in much shorter time than our own, there are a number of reasons why other pharmacopeias have been delayed. The German Pharmacopeia was issued within one year of the time the revision was authorized, because the revision was made before the authorization to publish took place. Germany has a standing revision committee which is constantly at work. At the present time the German Pharmacopeia is being actively discussed, and it is probable that the next revision will be issued within six months of the time the revision is authorized. The revision of the Swiss Pharmacopeia, it is true, took five years. This was due, however, to the entire reorganization of the methods of revision. The Swiss Pharmacopeia was originally a book devised and revised by the Pharmaceutical Society of Switzerland. The present pharmacopeia is the first that has been legalized as the standard and also the first in the revision of which medical men took part. The Swiss have adopted a method that appears commendable and one that is well worthy of being followed by our own Pharmacopeial revision committee. In addition to possible corrections, provisions have been made for a complete revision in a very short time. The method of revision outlined by Dr. Sollmann appears to be somewhat complicated, but, on closer study, might prove itself to be comparatively simple. The revision committee of the Swiss Pharmacopeia depends on nine chairmen of subcommittees. These nine chairmen are responsible for the work, each man being individually responsible for the work in his department. The chairman of a subcommittee apportions the work out to members of his own choosing and they refer it to men who are supposed to work with them. The completed work is then referred to the chairman of the subcommittee and the chairman of the subcommittee subsequently refers it to the committee on editors. There are, of course, many things that some of us do not like in our own Pharmacopeia and many things that others do not like in foreign pharmacopeias, but we can not expect to get a pharmacopeia that will please all of us. The one thing to do is to get a pharmacopeia which will please most of us. I believe that the U. S. Pharmacopeia of 1910 will be the best that has ever been published in this or in any other country.

Dr. Robert A. Hatcher, New York: A year ago a resolution was offered, asking that a committee on the Pharmacopeia be appointed from the American Medical Association. The duties of the committee were outlined in a paper presented by Dr. Osborne. I was appointed a member of that committee, and while I recognized a good many of the shortcomings of the Pharmacopeia, I had rather a vague idea of the way to remedy some of these evils. I thank Dr. Sollmann, not for myself alone, but for the other members of the committee, for pointing out ways to approach the solution of some of these difficulties. Dr. Sollmann spoke of cooperation of medical bodies if they were assured that cooperation was desired. That assurance has been given. The chairman of the Committee on Revision of the Pharmacopeia has shown unequivocally how glad the committee is to receive suggestions. If each man in this audience becomes a committee of one to arouse a general interest in the county and state societies much good will result. These separate county and state societies need not send individual reports, but they can express their views through delegates in the coming convention. Dr. Sollmann spoke of unscientific preparations and preparations not found in the Pharmacopeia. The two terms should be synonymous; the Pharmacopeia must be made to contain every thing which rightfully should be prescribed. If the medical profession expresses itself intelligibly the Pharmacopeia will represent everything that is necessary. I believe that if we as individuals singly and collectively are recreant to our duty toward the Pharmacopeia, the government will cease to sanction it. I believe that the government which sanctions that work will take it over into its own charge.

I think that Dr. Sollmann's suggestion of frequent partial revisions or supplements to the Pharmacopeia is entirely feasible. The work of the Council has shown that it is not at all difficult to make constant additions to "New and Nonofficial Remedies," and that little work has gone through three editions. There is no reason why a substance should wait more than one week after it is subjected to crucial tests and it is decided that it shall be made official; it should be made official that very day, not in a year. Frequent revision does not necessitate frequent revision of everything in the Pharmacopeia. There is no reason why phenacetin should be kept out four or five years for fear a change would be made in the method of manufacturing fluidextracts and preparations in general.

Dr. Reid Hunt, Washington, D. C.: The committee on the Pharmacopeia to which Dr. Hatcher has referred has met and outlined a course of action. I hope that this committee will become the clearing-house for the views of physicians in regard to the Pharmacopeia. We shall be glad to have suggestions from anybody who will care to make them as to the physician's part in the Pharmacopeia.

Prof. W. A. Puckner, Chicago: The work connected with the revision of the Pharmacopeia is going to be much less than heretofore. More scientific work is being done today. At the last revision I was frequently consulted in regard to certain lines of work; the committee with which I was associated had to do a great deal of experimental work. Now a great deal of work of this kind is being done. The work of the Council on Pharmacy and Chemistry no doubt will be of the greatest value in the revision of the Pharmacopeia. The Council is testing the new drugs and trying to establish standards for them so that if they are found worthy to be admitted to the Pharmacopeia the standards will have been worked out. The Council has been attempting to establish uniform standards for certain classes of preparations. It urges manufacturers to provide, at the same time that they introduce a new drug, a method of demonstrating its purity and strength. In this way I am sure that the next revision of the Pharmacopeia will be much simpler and it will take a much shorter time to get it out because of the preparatory work which is being done throughout the United States at this time.

Dr. C. S. N. Hallberg, Chicago, Ill.: As I have said before, the United States Pharmacopeia approaches more nearly the status of an international pharmacopeia than any other. If we were to make a synthesized combination of the leading pharmacopeias of the world we should then probably have a pharmacopeia that would comprise most of the articles prescribed in this vast country. Yet it would have to go beyond this to provide for the profession in our insular possessions and would possibly require a Spanish edition—which, by the way, has been taken care of already by the trustees. I believe that the Spanish translation of the U. S. Pharmacopeia is now ready for distribution. But the great question has always been, What shall go into the pharmacopeia and what shall be placed under the ban? At a preliminary meeting, for example, some one objected to the inclusion of Emulsion asafetidæ on the ground that it was an obsolete remedy; but on the testimony of a Philadelphia physician, who found it of value as a rectal enema, it had to be kept in the Pharmacopeia. The trustees of the Pharmacopeia have arranged for the publication of a sixty-four-page booklet comprising the titles of the Pharmacopeia, the National Formulary, the "New and Nonofficial Remedies" and some unofficial titles, representing almost 2,000 titles. It is intended to circulate this all over the United States and have pharmacists check off from their prescription files 1,000 consecutive prescriptions. If we get 1,000 of these books filled we shall have statistics on what has been prescribed throughout the United States on 1,000,000 prescriptions by the time the next committee is formed two years from now. Then for the first time the Committee on Revision will really know just what is being used in this country. As to whether we should put in what is being used or what the leading medical authorities think ought to go in, that is another proposition. The U. S. Pharmacopeia, I think, should contain every reasonable medicine that is being used extensively by the medical profession. I believe that it is not the function of the committee to say whether or not certain popular pharmaceutical compounds, such as the compound syrup of sarsaparilla and camphorated tincture of opium, are inert or have no therapeutic virtue. I believe that the U. S. Pharmacopeia is fully equal, if not superior, to any pharmacopeia of the world. An unfortunate delay in the getting out of the last pharmacopeia occurred chiefly because we had to enter on a new line—the introduction of the serums.

Dr. Bernard Fantus, Chicago, Ill.: The Pharmacopeia, as now issued, is eminently adapted for the guidance of the pharmacist, but of little use to the practicing physician. It seems to me, however, that a "Physicians' Commentary on the Pharmacopeia" is something that would be eminently desirable. An authoritative book might be issued by some representative body, such as the American Medical Association, in which the physician could find the practical information which he needs in prescribing drugs. If, for instance, in describing the taste and odor, the best disguises for these were suggested; if solubilities and incompatibilities were discussed in detail; if the best methods of administration were given, as well as full information on dosage, frequency of repetition of dose, etc., we should have a book that every physician would want and study. I hope that some means will be found to have such a book issued by the American Medical Association before very long. An attempt in that direction has been made in the "Physicians' Manual of the U. S. P. and N. F." This little book is excellent as a beginning; but, I believe, it does not give quite enough information.

I wish to defend the teachers of materia medica and therapeutics. They are usually among the least influential members of the faculty. Their courses are generally crowded down into the freshman and sophomore years of the medical curriculum, and given the minimum of hours required by the state boards, which, as has been my experience as a teacher in this branch, is less than one-half of what is absolutely necessary in order to do creditable work. It has cost me a great deal of effort to get more adequate recognition for the branch in the school with which I am connected. I hope that Dr. McCormack's suggestion of this morning will be acted on, and that the state boards will recognize the importance of the teaching of this branch. Joint meetings of physicians and pharmacists ought to be held frequently, at which important drugs might be discussed, both from the standpoint of the physician and from that of the pharmacist.

Dr. M. G. Motter, Washington, D. C.: The next Pharmacopeial Convention is now not two years off. Before the American Medical Association shall again assemble the call for the appointment of delegates to the convention of 1910 should have gone forth, and, as a member of the committee on credentials, I wish to emphasize what has been said about the utter indifference of the great majority of the medical profession to the Pharmacopeia, both as to attendance at the convention of 1900 and the fact that the proceedings of that convention show reports from not more than a half dozen medical organizations in this country with reference to the subject. It seems to me that imitations of such heterogeneous mixtures as are marketed by certain trade combinations should scarcely have place in the Pharmacopeia of 1910. I should like to see every committee on the Pharmacopeia take up this question.

Dr. Alexander S. von Mansfelde, Ashland, Neb.: It is an old saying that everybody's business is nobody's business. I have had the honor of acting as the presiding officer of the House of Delegates of the Nebraska State Medical Association since its commencement, and I have not seen any communication from the Committee on the Revision of the Pharmacopeia. I do not need to assure you that if anything officially had come to us it would have been taken care of. I mean to say that there ought to be some step taken by this Pharmacopeial Convention, besides notices in the newspapers and journals. Official letters should go to the state associations to call for the assistance required. So far as Nebraska is concerned, it will be given.

Dr. Torald Sollmann, Cleveland, Ohio: It is a great satisfaction to me to obtain the ideas of the chairman of the revision committee. I feel that a great many points on which we are at odds are matters of misunderstanding. For instance, Professor Remington misunderstood me when he thought I said the pharmacists had too large a representation. Not at all. I think that the Committee on Revision proper should consist almost entirely of pharmacists. Another misunderstanding was apparent in Professor Remington's statement that the revision committee would be indefinitely delayed if it should write to the county medical societies and give them opportunity for reply. It was not in my plan to wait indefinitely, but only to give reasonable opportunity and encouragement. I do not see why this should delay revision in the slightest degree. As to the frequency of revision, I agree that as soon as it becomes plain that a thing should go into the Pharmacopeia, there should be no delay. I think that five years is too long to wait. As to the publication of supplements, reference to my paper will show that I did not intend to have these placed in the back of the book where they would not be seen. Professor Remington explains that most of the power as to admission was left to the therapeutical members. This is very well, but it is accidental, as there is no definite rule. I believe that the admission committee should be elected directly, independently, but to work in association with the Committee on Revision as I have outlined. As to subcommittees, Professor Remington explained that six months was occupied in assigning each man to his place; that the method has been a most careful one. It is quite conceivable, however, that a suitable man for each position would not be available in the revision committee, when this is elected at large by a general convention which is not instructed as to which place each member is to occupy. Direct election would again seem a simpler and surer method.

Prof. J. P. Remington, Philadelphia: We have the right to call on any expert in any branch. All that the committee has to do is to ask for such a man and the request is put to vote. For instance, we had an expert from Montclair, N. J., an authority on volatile oil. In nearly every subcommittee experts were employed and the men we have asked to help have never refused.

Dr. C. F. Wahrer, Fort Madison, Iowa: My paper contained much censure. I wish, therefore, to say that the work of the *Council on Pharmacy and Chemistry*, which is publishing its deliberations weekly in The Journal, is one of the best means that has been put forward thus far in order to cure the evils I have mentioned. One man may lead a horse to water, but 20,000 can not make him drink. If pharmacopeias are revised every five or ten years, or oftener, the very people who should read them will not. What can we do with them? The American Medical Association can wield a great influence; there are 32,000 members now, I am told. They will finally overcome these miserable trade journals, some of which since they became rich have become good. Let's keep up a constant warfare. It means a campaign of education, and I trust we shall keep at it until the body politic of medicine, which is now like an evil sore, is cleansed.

A FURTHER CONTRIBUTION TO THE HISTOPATHOLOGY OF PARAFFIN PROSTHESIS.*

M. L. HEIDINGSFELD, M.D.
Dermatologist to the Cincinnati Hospital.
CINCINNATI, OHIO.

In September, 1906, I presented to the ninth congress of the Deutsche Dermatologische Gesellschaft a report of the histopathologic changes which paraffin underwent in two cases in which prosthesis had been performed by two self-styled dermatologists or "beauty doctors" for cosmetic results. I report herewith some further clinical and pathologic observations in one of my earliest prosthetic cases:

CASE REPORT.

History.—Miss H. S., aged 11, presented herself in May, 1904 for cosmetic correction of a number of facial cicatrices resulting from chickenpox, incurred when she was 8 years of age. From May 16 to June 17, 1904, twenty cicatrices of varying size and depth, situated over various portions of the face, were carefully obliterated with hypodermically-placed paraffin (melting point 52 C.), under cocain anesthesia. The paraffin was injected in a fluid condition by means of a powerful metallic syringe, which, together with its contents, was immersed in hot water immediately prior to each injection made. The paraffin employed was specified to be of one definite melting point, but there is reason to believe that it was composed of a mixture of paraffin of high melting point and oil of vaselin. The immediate results obtained in the case were excellent; the injections were made without incident, and with relatively little inflammatory reaction. When the patient presented herself on October 5, 1907, after an absence of over three years, the cicatrices were again evident almost to their former degree of depth and outline, and much more disfiguring in their character, for the reason that all of them were considerably pigmented, and surrounded with a faint zone of mild inflammatory reaction. The disfigurement was more pronounced than at the time when prosthesis was first attempted, and of such a character that an extirpation of some of the larger and more prominently situated lesions seemed imperative. One of these lesions was removed October 12, 1907, and forms the basis of the subsequent report, which conforms in nearly all particulars to those observed in the two cases previously reported and to cases of the same general character thus far recorded in the literature.

Histologic Examination.—The epidermis is normal except for a slight proliferative activity confined to small areas of the lowest interpapillary germinal cells of rete mucosa. The same degree of activity is noted in the epithelial cells of the hair follicles and sweat glands, whose orifices are moderately distended with keratotic exudate. The sebaceous glands are hypertrophied and envelop their respective hair follicles on all sides. The sudoriferous glands show a moderate cystic dilatation, and endothelial proliferation. The cutis shows no pathologic change except a moderate degree of vascular exudate centered about the smaller capillaries. The prosthetic area is encapsulated with a wall of connective tissue, and is the site of numerous cavernous spaces, which give the specimen under low power a honey-comb appearance or that of a well aërated piece of Swiss cheese (Fig. 1). The spaces are the site of paraffin in unchanged or slightly changed form, removed by the alcohol and xylol in the process of hardening and clarification. Many of the smaller spaces are only partially obliterated and contain flattened degenerated cells and leucocytes. Most of the spaces are surrounded with a dense wall of infiltrating leucocytes and loose connective tissue, which imparts to the specimen the appearance of a granuloma not unlike that of tuberculosis before caseation manifests itself.

The presence of numerous giant cells intensifies the resemblance to tuberculosis. Under higher power the prosthetic area is seen to be made up of cellular elements, which are grouped in alveolar form and surrounded by a mesh-work of loose areolar, inflammatorily infiltrated connective tissue. The alveoli contain a large number of cells and degenerated cellular products and an extensive infiltration of leucocytes. The cavernous spaces are surrounded with a thick infiltrating wall of leucocytes. The smaller partially occluded cavities are observed under high power to contain masses of flattened degenerated cells, with here and there an occasional leucocyte. The distinguishing and characteristic pathologic changes are the Swiss-cheese-like general appearance under the low powers of the microscope, the alveolar-like distribution of the inflammatory products and the abundance of giant cells.

THE PATHOLOGIC PROCESS.

The pathologic process which a disintegration and removal of the paraffin by leucocytic action is effected as follows: The paraffin when injected is distributed in strands along the lymph spaces, and between cellular structures, and here and there *en masse* by the rupture of tissues and their forcible distension. Its presence as a foreign body excites a reactionary inflammation sufficient to wall it off from the surrounding tissues and secures its encapsulation with newly-formed fibroconnective tissue. The leucocytosis is then directed against the paraffin proper, beginning with a peripheral invasion and disintegration. The new army of invasion yields to degenerative changes, in the form of a flattening of the cells, with loss of nucleus, and general staining properties. This army of degenerated cell invasion is succeeded by a second army which undergoes a less complete form of degeneration, with the nuclei preserved, thereby forming masses of giant cells. These in turn are invaded by a third army, which has for its ultimate object a complete fibrosis. All these changes can be readily traced in their successive steps, the larger cavities retaining in their central zones the paraffin in its unchanged original form, the next smaller caliber cavities show the first step in the pathologic change, the next. the second, and smallest alveolar spaces. corresponding to the thinnest strands of injected paraffin, show evidence of fibrosis in its most complete form.

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* Read in the Section on Cutaneous Medicine and Surgery of the American Medical Association, at the Fifty-ninth Annual Session, held in Chicago, June, 1908.

Pigmentation following paraffin prosthesis is unusual, and this is the first instance which I have encountered in my personal experience. As far as I have been able to examine, the literature reveals but a single instance; Pigand[1] reports a case of discoloration of the skin, with ulceration and fistula following an injection of soft paraffin into the breast. No further light was shed on the nature of the pigmentation in my case by the histologic examination; examination of unstained sections revealed a slightly abnormal amount of pigment in the lower layers of the rete mucosa, and the number of pigment carrier cells in the papillary layer of the cutis was slightly in excess of the apparent normal. No pigment could be observed in the proximate area of the prosthesis. The patient was a pronounced blonde in type and showed no other pigmentation tendencies.

The unstable character of the prosthesis in its clinical aspects does not differ materially in this case from that in others in my personal experience, in which the correction of saddle-nose and cicatricial deformities were more or less temporary in character. Sehrt,[2] among many others, has noted the non-permanent character of these injections, whether soft or hard paraffin was used, and reports a prosthesis in the cheeks which became transformed to connective tissue and invaded with giant cells and inflammatory exudate.

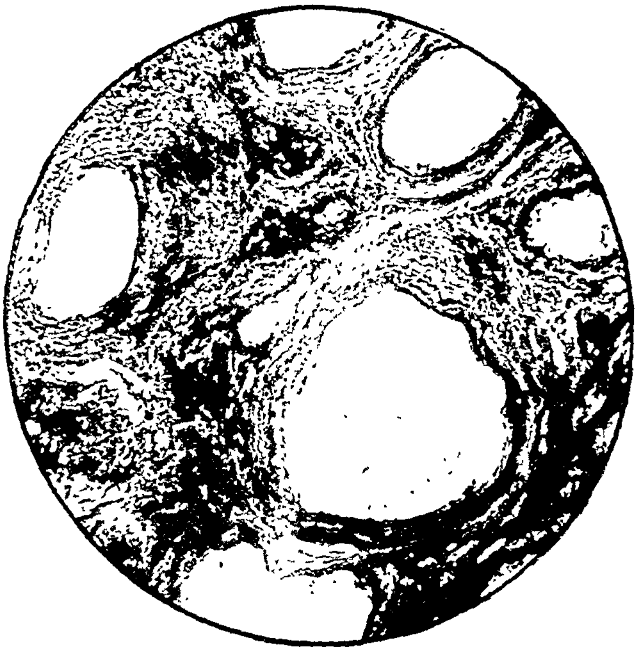

Fig. 1.—Paraffin prosthesis in a case in which the pits from chickenpox were obliterated four years prior to the extirpation which was made necessary on account of pigmentation and recurrence of the cicatrization. The large cavernous spaces are the site of paraffin in unchanged form and undergoing an early stage of degenerated inflammatory infiltration and are surrounded with newly formed fibroconnective tissue. Winkel, objective 3, ocular 2.

Many of the reports, particularly the earlier ones, on the histopathology of paraffin prosthesis are misleading and have been given various interpretations, in spite of the fact that they possess more or less common and uniform characteristics. The earliest investigations have dealt chiefly with the liquid paraffin and oil of vaselin, which were injected into the buttocks as the menstrua for mercurial injections. Allgeyer[3] and Wolters[4] observed cavernous spaces in these cases and believed them to be absorbed bundles of chemically destroyed muscular tissue. These spaces have been regularly recognized and variously interpreted, and rarely credited with being the site of unchanged paraffin. Many investigators even to the present day are oblivious of the fact, or at least their technic fails to indicate otherwise, that the paraffin in the tissues is necessarily removed by alcohol in the process of hardening the tissues, and by xylol in the process of clarification of the specimen, and that its microscopic recognition is only possible in frozen sections, stained with aqueous solutions and mounted in glycerin. Sakurane[5] in a recent careful and painstaking research, which even included the chemical determination of the presence of paraffin, interpreted the large spaces to be the result of the inflammatory reaction called forth by the mercurialized paraffin, and credited as paraffin a number of small round yellowish-red slightly refractory bodies (cell degenerations?), which he observed here and there in the cavities and surrounding tissues.

DANGER OF EMBOLISM.

One of the greatest dangers and most serious objection to paraffin prosthesis is that of embolism. It has occurred for the most part in cases in which liquid paraffin and oil of vaselin have been employed as the menstrua for mercurial injections. Hemiplegia and death have resulted in cases in which olive oil was injected subcutaneously for sustaining life in a case of stricture of the esophagus, and embolic foci found in all the internal organs and viscera. Amaurosis following paraffin prosthesis has been reported by a comparatively large number of writers, but almost invariably where paraffin of low melting point, or a mixture of low and high melting points, was employed. Eckstein's[6] contention that paraffin with 52 + C. will not be followed by blindness still remains to be proved. In this connection I wish to report an additional case in the practice of one of my Cincinnati confrères:

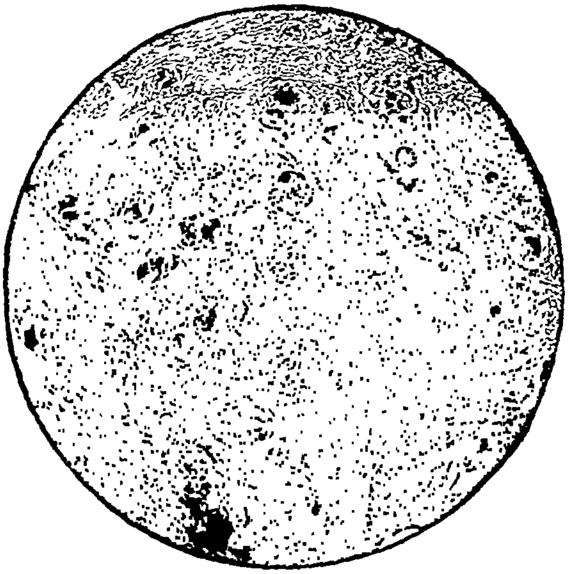

Fig. 2.—Very small prosthetic areas infiltrated with inflammatory exudate and surrounded with newly formed fibroconnective tissue, degenerated leucocytes and gland cells. General appearance, that of a granuloma, resembling an early stage of tuberculosis of the skin. Winkel, objective 1, ocular 1.

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[1] These de Paris, 1904.
[2] Beitr. z. klin. Chir., lv, No. 2.
[3] Arch. f. Dermat. u. Syph., 1901, lv.
[4] Arch. f. Dermat. u. Syph., 1895, xxxii, p. 149.
[5] Arch. f. Derm. u. Syph., 1906, lxxx, p. 401.
[6] Berl. klin. Wchnschr., 1903, 12 and 13.

CASE REPORT.

History.—A. S., male, aged 21, was injected June 13, July 5 and 26 and August 13, 1907, *for saddle nose deformity*, with paraffin of 43 C. melting point. Paraffin of one definite melting point was specified, but in reality a mixture of hard paraffin and oil *of* vaselin was *employed*. The first three injections *caused* little pain and inflammatory reaction; the last one was made under considerable pressure and was quite painful. At the close of the operation, vision suddenly disappeared from right eye.

Ophthalmoscopic Examination.—The following is the report of the ophthalmoscopic examination by Dr. Jesse Wyler, made August 24, 1907: Right eye stands in slight divergence. Quantitative vision only. Deep blood vessels, remains of a parenchymatous keratitis, seen in cornea with a loup. Pupils react to light and accommodation capsule of lens shows thickened areas, forming opacities of considerable size. Vitreous is *clear. Papilla* markedly white; *slight* crescent outward. Borders are hazy and connective *tissue on the blood* vessels. Small temporal crescent. Veins somewhat larger than normal. *Arteries* normal. Macular region is *free. Diagnosis:* Atrophia nervi optici *secundaria. Patient states* that both eyes went blind ten years ago, but came around all right.

Cases of this character are too frequent to require any special comment, and they continue to occur in spite of the elements of *danger* attendant on the use of paraffin in its various forms and methods of *application*, as constantly depicted by a host of observers and investigators. It has been conceded for years that paraffin workers are strongly predisposed to keratoses, precancerous ulcerations and epitheliomata, yet relatively few operators have manifested a reluctance to deposit paraffin deeply in the tissues, where its subsequent removal becomes definitely precluded and its dangers correspondingly more grave. Davis in a protest against the use of paraffin about eyes, has called attention that its mere deposition in *the capsule of* Tenon following enucleation has been followed by sympathetic involvement of the remaining *normal* eye.

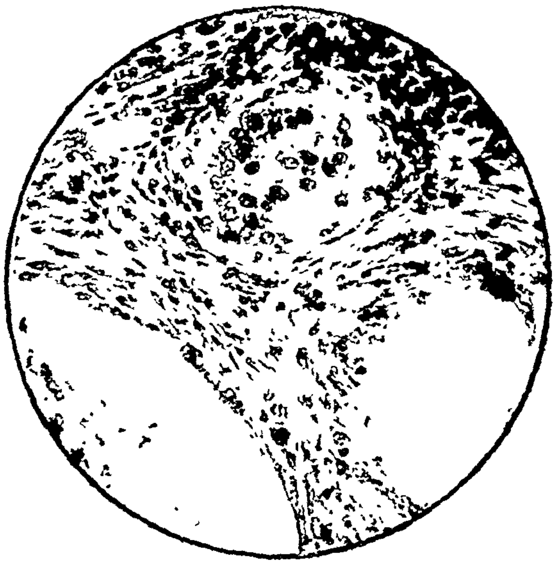

Fig. 3.—Two prosthetic areas containing paraffin in unchanged *form and a third*, the site of a large Langhan giant cell. Winkel, *objective* 4 A, *ocular* 2.

Of considerable interest in this connection are the recent experiments of Emil Beck[7] with injections of bismuth in paraffin for the successful obliteration of fistulous tracts; the excellent clinical achievements of the author in the immediate results will doubtless prompt its further use in hundreds of cases without serious consideration or regard for the ultimate rôle which paraffin will play in these cases. *If the paraffin is* to act merely as bridge or trellis work for the formation of obliterating granulation and connective tissue, as the author indicates, the injection *of sterile* agar-agar, under careful aseptic precautions, in accordance with the interesting and instructive experiments of Kramer,[8] is probably equally preferable and possibly a more *innocuous* substitute for paraffin.

There is one point in the question of paraffin prosthesis *which* requires *further elucidation*, and that is Eckstein's[9] contention that paraffin of *high melting* point remains stable and unchanged when deposited in the tissues. If this is the case, and it *can further* be shown that it also exerts no pathologic influence on the surrounding tissues, prosthetic paraffin may *find* a valued place for itself in therapy of the future. The consensus of present opinion is against this view. My personal observations *and* investigations do not permit an expression on this point, for the reason that I have not thus far been able to exercise a perfect control over the source of *my* paraffin. I have reason to believe that in cases in which I have specified hard paraffin with one definite high melting point I have been supplied with a mixture of hard and soft paraffin. I feel assured that in *these cases* the *hard paraffin* has *disappeared* with the soft paraffin through the agency of phagocytosis, as maintained in my former contribution on the subject; but I am not in a position to state whether or not this would also *have* been consummated without the agency of soft paraffin or liquid albolene.

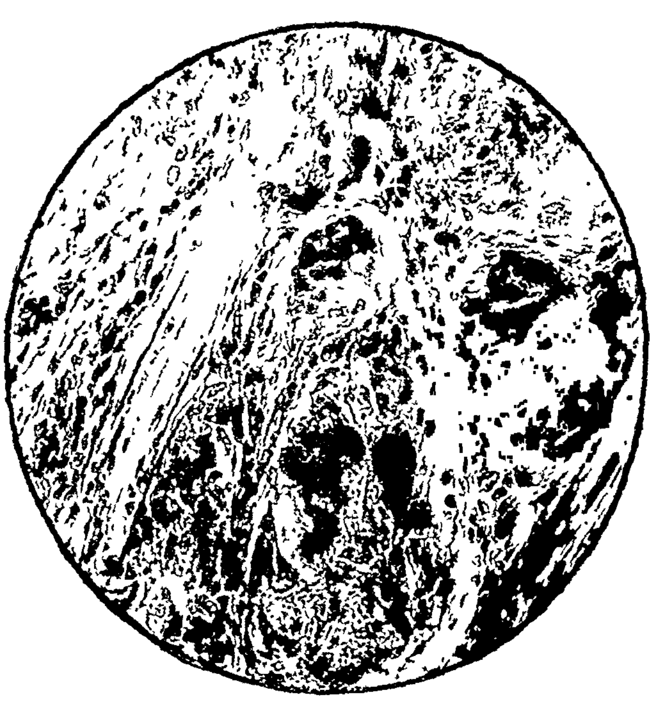

Fig. 4.—Giant cells forming the site of a prosthetic area and invaded by leucocytes. The whole area is undergoing a diffused fibrosis, which is the goal in *paraffin* prosthesis. Winkel, objective 4 A, ocular 2.

From our present state of clinical and histologic knowledge, paraffin when injected into the tissues, *is attended with the considerable danger* of embolism and amaurosis. The paraffin is *promptly* removed by phagocytosis, becomes replaced with fibroconnective tissue, and excites no small degree of local *inflammatory* reaction. Its *presence* is an irritant and foreign to the tissues in which it is *placed*. It may cause pigmentary as well as mechanical disfigurement. It often stimulates surrounding structures to epithelial proliferation and adenomatous change. Its presence excites successive invasions and degenerations of phagocytes and leucocytes, which, with the intermediate formation of giant cells and connective tissue, impart a characteristic pathology, in which the various foci of paraffin become surrounded with a granulomatous structure not histologically unlike that of an early stage of tuberculosis (Fig. 2); later they become surrounded with a wall of dense fibroconnective tissue. The removal of the central portions of the unchanged or slightly changed paraffin (Fig. 3) with alcohol and xylol imparts to the pathology a characteristic Swiss cheese-like appearance. Complete fibrosis (Fig. 4) is the final goal.

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[7] The Journal A. M. A., March 14, 1908, p. 868.

[8] Ann. Surg., August, 1901.

[9] Berl. klin. Wchnschr., 1906, 31 and 32.

THE RELATION OF THE CHARACTER OF THE SYPHILITIC INITIAL LESION TO THE SECONDARY CONSTITUTIONAL PERIOD.*

A. RAVOGLI, M.D.
CINCINNATI.

From common clinical experience amongst syphilitic patients it has been observed that some who had been affected with the typical Hunterian chancre followed by indurated bubo have developed constitutional syphilis much later and milder in character than others who had been affected with small initial papules. The assertion of Marston, Love, Paget, Hutchinson and others, that the more extensive the initial sclerosis, the more severe and stubborn the secondary symptoms, finds no confirmation in my observations. On the contrary, I agree with the observations of E. B. Bronson,[1] that in malignant forms of syphilis the symptoms are much more precocious, the period of incubation is shortened and the constitutional manifestations are hastened. This fact, which not long ago seemed paradoxical, finds to-day an easy explanation in the power of the animal organism to produce elements which oppose the invading pathogenic germs. These beneficial factors are known as antibodies or antigens, and are produced in the blood under favorable circumstances and possess the power to dissolve injurious substances by hemolysis.

The result of the contact of an extract of bacteria with the antibodies in a living organism is immunization. This, although it explained the action in infectious diseases produced by bacilli and cocci, yet did not explain the other infectious diseases, the causative agent of which had been not yet found. The factor causing syphilis has only recently been found and so far has not yet been cultivated. It can not be digested in physiologic salt solution in order to show its antigen. Wassermann, however, came to the conclusion that in the organs in which a large number of spirochetes are found there must be found antigens. The livers of fetuses which have died of hereditary syphilis have been used to obtain the extract, which, in itself, is already capable of producing hemolysis. The serum of syphilitics also has antigens and is capable of clumping so that the union of both shows a single strong action. From these experiments Hoene[2] formulated his serum diagnosis of syphilis. In fact, he was able to establish the fact that in from 60 to 90 per cent. of all syphilitics who have clinical manifestations of syphilis the serum clearly shows antibodies and is capable of producing agglutination. If the serum of a healthy man is used no agglutination results. These experiments so far have no positive results and no practical application, but one thing is true, that in the organism of syphilitics, as a result of metabolism, products are formed which have much more intensive action than is the case in normal organisms. In the serum of syphilitics products are present which are not found in normal serum. To the lack of formation of antibodies by the organism is due the ravages of malignant syphilis. In such cases the spirochetes are left unimpeded and proceed to invade the whole system.

The hardening of the chancre is due to the effort of the organism to agglutinate the spirochetes so they may remain there encapsulated and finally be disposed of. Consequently the greater the reaction the more effect to impede the progress of the new dwellers in the organism. The idea that syphilitic virus constantly follows the lines of lymphatics to invade the organism is no longer tenable, because there are many cases in which the infection takes place quickly and can be traced to the spreading of the virus through the blood vessels.

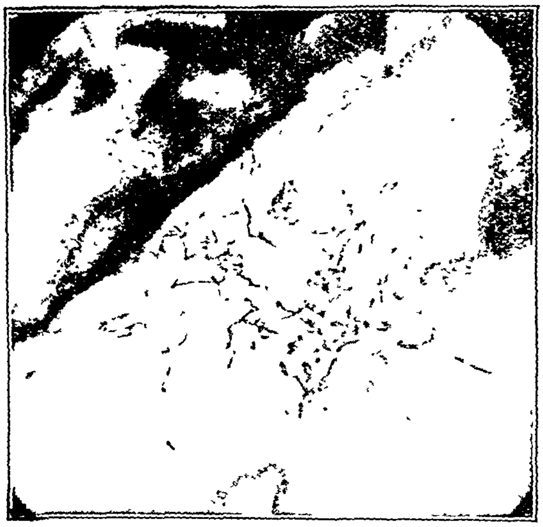

Fig. 1.—Spirochetes in a chancre (1/12 inch oil immersion).

In a series of cases in which the hard chancre was of a severe nature, accompanied with edema, and in which paraphimosis had occurred to necessitate circumcision for the purpose of relieving the pressure and saving the glans from gangrene, the secondary eruption has appeared as late as two and three months. In some cases I have doubted the correctness of the diagnosis of hard chancre for the reason that secondary symptoms did not show up and no constitutional treatment was given.

A strong and otherwise healthy young man was affected with a hard chancre of a very severe type, and in order to save the glans it was necessary to remove the swollen prepuce. The wound healed up slowly but perfectly. The patient had splendid health after that and, being carefully watched, never showed luetic symptoms. The inguinal glands remained slightly enlarged. One year and a half afterwards he complained of a hard and painful node in the left breast. It was a clear case of syphilitic mastitis, which easily yielded to the application of mercurial ointment. Constitutional treatment was administered and he is still being treated.

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* Read in the Section on Cutaneous Medicine and Surgery of the American Medical Association, at the Fifty-ninth Annual Session, held in Chicago, June, 1908.

[1] Primary Syphilis, Morrow, System of Genitourinary Diseases, 1893.

[2] Hoene, Fritz: Die Serum Diagnose der Syphilis, Dermat. Ztschr., 1908, xv, 113.

Another young man, of athletic build and in splendid health, had two hard chancres, one on the urethral meatus and another in the sulcobalano preputiale. Inflammatory symptoms had set in and in trying to bring the prepuce back he could not replace it. He came with the penis greatly swollen, edematous, twisted, the gland bluish in color. There was no time to lose; the prepuce was opened and circumcision performed, a great deal of the chancre being removed. The wound healed up by second intention. The patient, after being relieved of the strangulation of the glans, has always felt well, and shows no sign of constitutional symptoms of lues. Only three months afterwards he showed a mild eruption of roseola, with some erythema of the pharyngeal ring. Lately he had a marked eruption of mucous patches on the tonsils and base of the tongue. Under the treatment with injections of the gray oil he is doing well. Since he was operated on he has never lost one day from his occupation.

Another young man, 26 years old, of good physique and apparently in good health, came to be treated for a little sore on the penis, which he considered of a very trifling nature. Only a day or two before he had noticed three little sores of the sizes of a pin-head close together on the right side of the frenum.

His last exposure dated about two weeks before. The sores were somewhat too deep to be taken for excoriations from herpes, neither did they have the character of the chancroid, and yet they did not show induration.

They were cauterized with 3 per cent. solution of nitrate of mercury, which seemed to have helped a great deal; the patient continued his treatment by bathing the sores with a 1 to 1000 solution of bichlorid of mercury and by applying calomel powder locally.

In a short time the sores had healed up but one somewhat extended, the surface had taken on a bluish-brown color and under the finger a slight, scarcely perceptible, hardening could be noticed. The lymphatic glands did not show any induration or enlargement. The blood vessels around the fossa crurogenitalis showed a net of bluish-red streaks extending to the internal surface of both thighs. This peculiar condition was the result of an angitis with some effusion of the coloring matter of the blood. At the same time the patient began to show signs of anemia, lost his appetite, could no longer attend to his occupation. No more than twenty days from the appearance of the chancres large patches of roseola covered the chest, the abdomen, the arms and the thighs. The patches of roseola in the beginning looked more like wheals of urticaria, from the size of a dime to that of half a dollar, somewhat elevated above the level of the skin The patient was running down considerably in his general nutrition.

Roseola at present has nearly disappeared, leaving only some pigmented spots. The mouth is now the part mostly affected; the tongue, mucous membrane of the cheeks, and tonsils are covered with deep ulcerated patches which render difficult the mastication and prevent swallowing. His present condition is rather bad and shows that a quick and severe case of syphilis has followed an initial lesion which was of a mild and trifling character.

It appears clear that the enlargement and swelling of the lymph glands is due to their action in opposing the invasion of the spirochetes. In the cases in which the glands are very little or not at all involved, syphilis usually takes a severe course.

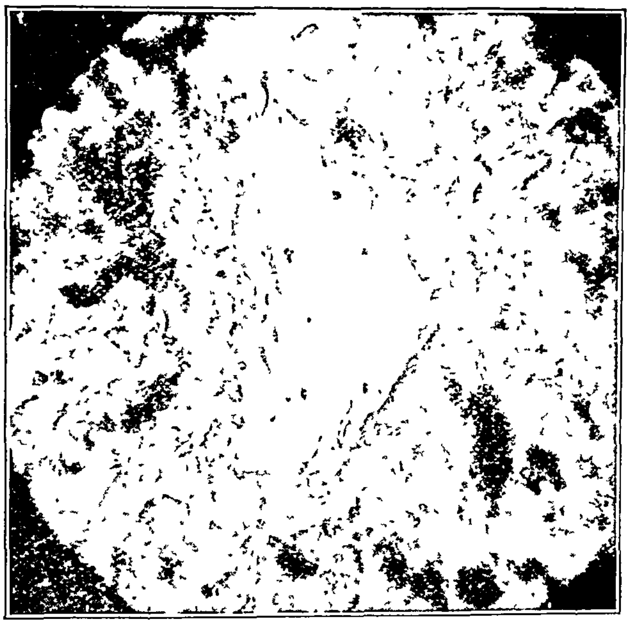

Fig. 2.—Spirochetes clumping in the middle of a lymph space (⅛ inch objective).

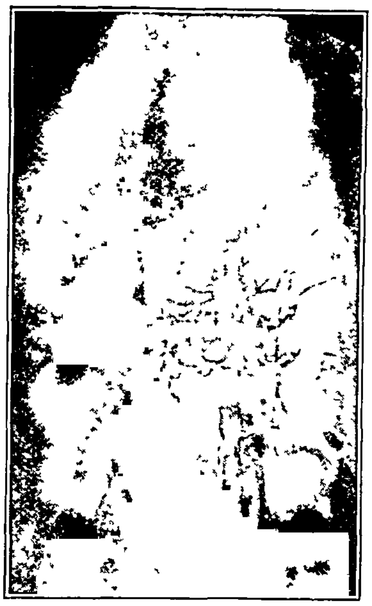

Fig. 3—Clump of spirochetes in the middle of a lymph vessel.

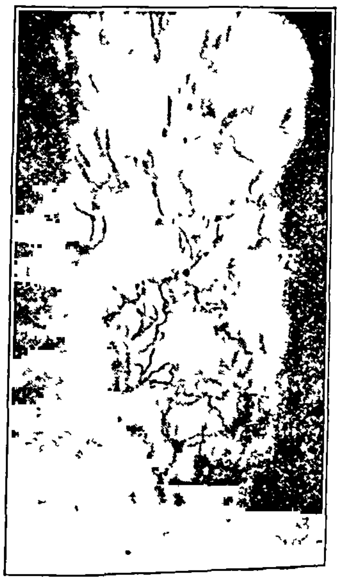

Fig. 4. — Spirochetes clumped together in a lymphatic gland of the groin.

The swelling of the glands, which is the result of tuberculous or of mixed infection, has no connection with the enlargement due to the invasion of the spirochetes, and the latter then constitute a complication by themselves.

According to Gastou, the evolution of syphilis can be schematically reduced to three periods, one lymphatic in its development, a secondary one with manifestations on the capillary and venous system, and finally an arterial infection of a tertiary nature. It seems that the treponema changes its functions and undergoes modifications after some time, so much so as to cause a difference in the symptoms. In fact, according to Gastou, the treponema at the beginning of its existence seems to be an anaërobe, and is gradually changed into an aërobe. The eruptive symptoms of syphilis, beginning with the chancre and ending with the gummous tumor, are the result of the multiplication of the infectious agent. The reactions caused by its presence in the tissues are the symptoms of the eruption which we see in the syphilitic subjects. In the individual free from syphilis the treponema finds a different reaction from that of the tissues which cause the induration. Finger has experimentally proved the inoculability of the tertiary syphiloma. Hallopeau and Gastou[3] are of the opinion that the difference of symptoms in the various periods of syphilis are due to the different functions and to the different action of the treponema in consequence of modifications. The modified spirochete, when inoculated in a healthy organism, takes again its ordinary appearance and reproduces the initial symptoms.

The syphilitic treponemas find also their means of propagation into the system by continuity through the interstices of the tissues, showing thick syphilitic lesions around the initial lesion which Lang called regional infection. This peculiar method of propagation can, according to Hallopeau, be explained as the result of an increased virulence of the treponema emanating from the initial lesion. It can also be accounted for by a debilitated condition of the general system of the patient, which shows lack of power to produce antibodies in order to impede the progress of the germs.

In the first two cases the chancres had been of an unusual severity and had been accompanied by hard edema of the penis and enlargement of the lymph glands of the groin which Hallopeau very appropriately calls *le ganglion barrière.*

The edematous prepuce and the paraphimosis necessitated circumcision. The skin was removed, together with the ulcerated chancre. The chancre was cut in pieces and stained by the Levaditi method for spirochetes and the microscopic and photomicrographic work was done by my assistant, Dr. George H. Werk.

Figure 1 shows spirochetes free in the interstices of the tissues of the chancre. The reaction does not seem to be very remarkable and the spirilla do not suffer any impediment.

In Figure 2, in the middle of an infiltrated skin surrounded by leucocytes and large plasma cells, a lymph canal is opened containing spirochetes which begin to form lumps.

Figure 3 shows much more distinctly a clump of spirochetes in the middle of the lymph vessel. This bunching of spirochetes in the middle of a lymph canal shows clearly that the agglutinin of the organism has an effective action in massing the spirilla together. This action is also found in the alveoli of the lymphatic glands.

Figure 4 shows a bunch of spirochetes in the middle of an alveolus of the lymph gland, the true syphilitic bubo. This condition of the glands shows that their enlargement in consequence of an invasion of syphilis is not entirely passive but is due to an active reaction for the purpose of opposing the progress of the invading organisms. When the glands have suffered in consequence of suppurative adenitis, or when they have been removed or destroyed, infection with syphilitic virus seems to be much more dangerous because the glands are ineffective and can not impede the progress of the spirochetes.

Hallopeau referred to a case in which a limited thick papular eruption extended for over 15 cm. (6 in.) around the left inguinal region. The inguinal glands had been destroyed by a chancroidal bubo. It seems that in this case the treponema, instead of remaining limited to the gland where it could have been somewhat modified, has been inoculated by continuity and from the interstices of the tissues has traveled forming the limited eruption before the general symptoms have appeared.

The intrusion of the spirochete or its toxic products into the circulation of the blood causes at first a reaction which is revealed by the syphilitic fever. This reaction precedes the roseolar eruption, which may be considered as an effort of the organism to dispose of the invading germs. After the first reaction the system seems to lose the power of generating enough hemolytic elements to counteract the noxious action of the spirochetes. In the same way when the organism is feeble on account of some other diathesis, such as tuberculosis, malaria, or on account of alcoholism and a bad hygiene, the opsonic index is greatly lowered and the organism is left to the mercy of the invading bacteria and to that of the syphilitic virus. On the enfeebled condition of the constitution, the inability of the organism to produce antibacterial elements, and the passive condition of the leucocytes, unable to cope with the virulent germs, depends the factor of malignant syphilis. It is not the quality of the syphilitic virus which is the cause of malignancy, but the condition of the system of the newly infected individual. At times we see cases of very severe syphilis which have been taken from patients who had shown the mildest symptoms.

The treponema, after the first constitutional eruptions, begins to show a tendency to systematize and show up in its preferred localities. At this time the eruptions are no longer symmetrical as they were in the beginning, but make their appearance in places which offer better ground for their development. Other bacilli take part in the work and are the cause of pustular and ulcerative forms of syphilis. External injuries, irritations constantly applied in a part of the body are favorable causes for the invasion and development of the treponema in that locality. For this reason mucous patches of the tongue are so frequent in the mouth of men who chew tobacco.

According to the views of Hallopeau and Gastou the persistency and the stubbornness of the papulo-squamous syphilids of the palms and soles must be due to the hard and thick condition of the epidermis which covers those regions. The treponema, after being carried there by the capillaries, is left in the interstices of the tissues, easily reproduces, and can not find a way to reenter the circulatory path or its way out on account of the thickness of the horny layer. Moreover, the remedial agents in the circulation do not easily reach the palms and soles, nor are the remedies applied on the surface of the skin capable of penetrating the thick epidermis. Consequently the spirochetes remain undisturbed; hence the stubbornness of the affection.

The initial lesion in a severe form is usually a sign of strong reactive power of the system, the spirochetes are surrounded by the leucocytes, the tissues are trying to encapsule them, antibodies are formed and the organism is guarded. A well-directed treatment will easily dispose of the few spirochetes which are still found in the system, and in a short time the disease will die out. On the contrary, a mild initial papula, which in many cases passes unobserved shows that the system is unprepared to cope with the infectious agent. It finds its way more often through the blood vessels, and in a short time the eruptions appear. This kind of initial lesion is the one which is followed by severe and stubborn constitutional symptoms

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3. Localisations systématisées du tréponème Pallidum, 1907

In reference to the treatment, it is difficult to foresee whether it will be possible to find an antisyphilitic vaccine which, by increasing the opsonic index, will render the organism capable of disposing entirely of the treponema. One thing is sure: that in the mercurial preparations we have a remedy which directly attacks the spirochete and improves the general condition of the system, rendering it able to cope with the virulence of these germs.

In the meantime we can find the means to attack the treponema directly on the initial lesion where it is developing. We can either destroy it in the locality or at least succeed in modifying syphilis to such a point that it may have a mild course. The local and the general action of atoxyl has been greatly praised by Salmon and Hallopeau. The last named author[4] has called its use the novel local treatment of syphilis in its primary period. A salve containing 50 per cent. of atoxyl has been used on the initial chancre and at the same time there have been given injections with an atoxyl solution from 10 to 20 per cent. with satisfactory results.

In my service at the City Hospital in two cases of initial lesion the application of the atoxyl salve dissolved the hardness, cleaned the surface and healed up the ulcer in a much shorter time than has been possible with any other means.

The action of the atoxyl on the syphilitic pathologic products has been recognized by Hoffman[5] not only on man but also on the animals. Hoffman and Uhlenhuth have found in the application of atoxyl a preventive action against syphilis in the animals, and this was later confirmed by Metchnikoff. But it seems that the atoxyl treatment does not protect the patient from the relapses of syphilitic manifestations. In my practice the atoxyl injections in cases of severe symptoms did not give me the results which the mercurial preparations have afforded. We can say then that to-day we believe there has been found another remedy which has antisyphilitic action. Time and experience will show whether it is to replace mercury, whether it is to be given in conjunction with mercury, or whether the greatest of all antisyphilitic remedies will still be mercury.

5 Garfield Place.

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[4] Hallopeau, H.: Nouveau traitement local de la syphilis dans sa premiére période, rev. scient., ii, Jan. 11, 1908.

[5] Berl. dermat. Gesellschaft, July, 1907: cited in Dermat. Ztschr., 1907, p. 636.

THE INFLUENCE OF THE DISCOVERY OF THE SPIROCHÆTA PALLIDA ON THE TREATMENT OF SYPHILIS.*

JAMES F. BREAKEY, M.D.
ANN ARBOR, MICH.

The brilliant results of the work of Schaudinn and Hoffman, following the researches of so many able investigators, and confirming pre-existing opinions that syphilis was due to a specific micro-organism, are certainly a cause for congratulation on the progress of pathologic study. To the general practitioner, however, it presents the question: "What advantage is gained and what difference should it make in the management of a case of syphilis at any stage?"

This is a pertinent question and deserves consideration. In connection with the recent work done by French investigators in the prophylaxis and treatment of syphilis by calomel ointment and atoxyl, a partial answer to the question is found. Metchnikoff[1] has conclusively shown that syphilis may be aborted by the inunction of calomel ointment, provided it be used sufficiently soon following inoculation. Such a prophylactic use of the ointment, while interesting and useful on rare occasions, is impracticable and of no service in general practice; nor can it be used in any case in which a diagnosis has been made by the demonstration of the presence of the *Spirochæta pallida*.

In the same article the abortive power of atoxyl in syphilis was proved. With this drug the interval elapsing between the time of the inoculation and the use of the drug was much lengthened, such an interval having been as long as fifteen days, following which no manifestations of infection appeared. This again, as in the prophylactic use of calomel ointment, is an interesting fact, easily demonstrated in laboratory experiments, but of little more service in general practice than the use of the calomel ointment, so far as aborting the disease following a laboratory diagnosis with the presence of *Spirochæta pallida*.

Among the various laboratory experiments on apes, two animals were inoculated, together with controls, with syphilitic virus and later given prophylactic doses of atoxyl. The control animals contracted the disease, while the two inoculated animals did not. After an interval of two to three months these two apes were reinoculated and both developed typical primary sores. These experiments went to show that after the first prophylactic dose of atoxyl there is neither a dissemination of the virus nor a lasting immunity.

If further work goes to demonstrate the truth of the claims of these men as to the prophylactic power of atoxyl, given soon after inoculation, such a fact can be made of practical use in one way at least. If all persons who have been exposed to a possible syphilitic infection were to submit themselves for treatment by prophylactic doses of atoxyl, it would be possible to wipe out the disease. Such a line of treatment, however, would have to be instituted before the infection had been generally disseminated and before its presence could be demonstrated by finding the *Spirochæta pallida*. In general practice, of course, such a line of treatment would be purely empiric and the infected and uninfected must needs be treated alike. In this connection it might be said that such a dose of atoxyl, however, is harmless.

The prophylaxis and the treatment of an actually existing syphilis, of necessity, are two different things. Having a patient presenting a suspicious lesion, what is the general practitioner to do in the light of present knowledge? Weight of authority up to this time has held that no constitutional treatment should be begun until the diagnosis is confirmed by the appearance of secondary symptoms in some form.

In the presence of a lesion, to-day, in which an unsuccessful search for the *Spirochæta pallida* has been made, it would seem that the active constitutional treatment should still be delayed, pending confirmation of the diagnosis. With such a lesion, scrapings from which show the *Spirochæta pallida*, their presence is of sufficient confirmative weight to warrant the immediate institution of antisyphilitic treatment. Again the question arises: "Of what advantage is this to general practitioners, practically none of whom are able to demonstrate or differentiate the *Spirochæta pallida?*" Granting, however, that the micro-organisms have been demonstrated, what difference will it make in the line of treatment? The primary lesion from which you can first recover the *Spirochæta pallida* is but the first anatomic evidence of a condition already more or less systemic and unquestionably disseminated quite beyond the localized area of the primary sclerosis.

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* Read in the Section on Cutaneous Medicine and Surgery of the American Medical Association, at the Fifty-ninth Annual Session, held in Chicago, June, 1908

[1] *Ann. de l'Inst. Pasteur*, October, 1907.

What has been previously demonstrated as to the inadequacy of surgical excision in such lesions is quite as true to-day as ever. The only change from preexisting methods of treatment which could be wrought by the finding of the *Spirochæta pallida* would be in advancing the time in which one would feel warranted in beginning constitutional treatment, and even then one of the chief objections to early constitutional medication previously existing would still hold true; that is, early mercurial treatment may abort or delay secondary symptoms and the patient be lulled into a false sense of security after an insufficient course of medication and ultimately develop serious after-effects as a result of medication early instituted following a microscopic diagnosis of syphilis.

If, however, further observations go to show that atoxyl eliminates all evidences and possibilities of a lasting syphilitic disease, then surely much will have been gained.

A study of an exhaustive article by Paul Salmon[2] on arsenic in syphilis leads one to a conviction of the sincerity of its author and the truth of his claims regarding the results of the administration of atoxyl in syphilis. From it the following observations and conclusions may be made:

Atoxyl must be admitted to an equal footing with mercury as a specific in syphilis, and as an abortive in the disease it is much more reliable. As a remedy it is preferable in all stages and possibly can be depended on to destroy all spirochetes if used even after the primary manifestation. It is of special service in the graver and more malignant types of the disease. It is not contraindicated in the parasyphilitic manifestations, but even ameliorates many of the symptoms, such as pains and neuralgia in tabes and paresis.

Syphilis may be aborted by the prophylactic use of atoxyl administered as late as from one to two weeks following inoculation. The failures of previous investigators along these lines have largely been due to insufficient doses of atoxyl.

That atoxyl administered by injection proves to be a true prophylactic is demonstrated by the fact that an animal in which syphilis has been aborted by atoxyl, and later was again inoculated with syphilis, developed a typical chancre. The same experiment goes to show that prophylaxis does not carry with it an enduring immunity.

In the use of the remedy, during any of the stages of syphilis, more rapid improvement than one gets from the use of mercury usually followed.

When the disease has become disseminated—that is to say, at any time following the appearance of the primary lesion—constitutional treatment, be it with atoxyl or mercury, must be carried on for a prolonged period, and, while the improvement of particular syphilitic manifestations is more rapid with atoxyl than with mercury, recurrences appear on the cessation of the treatment.

The explanation of the action of mercury or atoxyl on the spirochete must still be found. It is probably through the effects of the drugs in attenuating the germs or in stimulating phagocytosis.

Beyond a certain dose, the amount given has no further effect on the destruction of the micro-organisms. The small doses are ineffective and useless, while large ones produce toxic effects, varying from slight headache, nausea, vomiting, colic and possibly ocular effects and subsequent paresis.

The ordinary dose should be 50 centigrams. This should be given hypodermically at intervals of one or two days and repeated from four to eight or ten times, after which an interval of rest should be observed, or treatment may be continued by one of the other specifics of mercury or iodin.

Very good results have been observed in the alternation of these remedies, or even in using them together at the same time. At present, atoxyl, as a remedy, promises much.

In unusual dermatoses of uncertain character, the recovery of the *Spirochæta pallida* establishes a positive diagnosis and indicates the necessary treatment. The failure to find spirochetes, however, proves nothing and we are then no better off than we were years ago. In such cases, the Wassermann test may be used as a necessary diagnostic resort.

Outside of the larger medical centers, such diagnostic measures are quite impracticable, and in the hands of the general practitioner impossible. The fact remains that in many cases a diagnosis must and will depend entirely on the clinical picture presented.

To the attending physician still remains the necessity of recognizing syphilis from the symptoms manifested by the patient.

The discovery of the *Spirochæta pallida* undoubtedly marks one of the greatest steps forward in the knowledge and literature of syphilis. The immediate practical benefit of this discovery, however, will be limited to a comparatively few cases, and even in these few cases its presence usually seems to be a confirmatory evidence of a diagnosis previously made by the clinical presentation.

213 East Huron Street.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. BREAKEY AND RAVOGLI.

Dr. Hermann G. Klotz, New York: My experience with primary sores of syphilis has been very similar to that of Dr. Ravogli. I particularly recall one case of a very malignant type in which the primary lesion consisted of a slight abrasion which healed within a week and which I had not recognized as a chancre at all. In connection with Dr. Breakey's paper, I emphatically warn from depending too much in practice for the present on these new discoveries. In time we shall learn more about the spirochete and about the part it actually plays in the development of syphilis, but it is much too early to draw practical conclusions. Long before the spirochete was discovered we knew that some micro-organism must be the causal factor in syphilis, but from clinical experience most syphilologists had come to the conclusion that it was safer to wait until the secondary symptoms appeared before beginning treatment. Until we know more about the spirochete and its life history there is no reason to recede from the former practice. From clinical observation we knew, long before this fact was explained by the study of the life history of the malaria plasmodium, that quinin was most effective in malaria if given at a certain time. So in time we may learn why the results of the mercurial treatment are more favorable when it is withheld until the secondary symptoms have appeared.

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[2] Ann. de l'Inst. Pasteur, January, 1908.

Dr. William A. Pusey, Chicago: I endorse Dr. Klotz's caution against attaching too much importance to the spirochete in a diagnostic way. I also protest against the present vogue of atoxyl. There is no reason to believe that arsenic is more efficient against syphilis than mercury, or that there is anything except arsenic in atoxyl that could be beneficial in syphilis. The only claim for the preparation is that by it arsenic can be given in enormous doses, but it is not established that the molecule of atoxyl has the same therapeutic effect as arsenic. There are a variety of opinions as to the safety of the preparation; dangerous results have been reported from its use, and the testimony regarding it is not all in accord. I believe that we are not justified in relying on it to any extent in the present state of our knowledge regarding it. Metchnikoff believes that syphilis can be aborted by the use of a calomel ointment, and certain French writers assert that this is efficacious when applied within eight hours after exposure. The statement that atoxyl or any other preparation of arsenic will abort syphilis if used within fourteen days or even longer after exposure is, in my opinion, absurd. If mercury will not do it—and it will not—there is no reason to believe that a new preparation of arsenic will display such potent action against syphilis.

Dr. A. Ravogli, Cincinnati: I do not in my paper recommend the use of atoxyl. I selected six cases of recent syphilis in my hospital service and subjected the patients to three injections per week of a syringeful of a 10 per cent. solution of atoxyl; one of these patients developed an iritis, and the others were at times a little better, at times a little worse. I then changed the injections to bichlorid, and my experience showed that the three weeks I had devoted to atoxyl treatment had been wasted. After three injections of bichlorid the eruption in all the cases cleared up. Atoxyl, used locally, seems to hasten the healing of a hard chancre. Calomel would probably have the same result. My experience has led me to take a lukewarm attitude toward atoxyl.

HEMOLYSIS WITH SPECIAL REFERENCE TO CANCER AND TUBERCULOSIS.

FURTHER OBSERVATIONS ON ITS CLINICAL ASPECTS*

GEORGE W. CRILE, M.D.
CLEVELAND.

The literature of the work hitherto done to discover some blood test for cancer is presented by Richard Weil.[1] The technic followed in our work at Lakeside Hospital is based on that in current use, modified to meet clinical requirements.

I have heretofore reported for the American Society of Cancer Research our observations on hemolysis in malignant tumors. This is in the nature of a report of progress in our investigation. The technic has been greatly improved and now seems to be quite accurate. It is exacting, must be precisely done, and every step amply surrounded by checks and controls.

Dr. D. A. Prendergast made the first series of observations, after which Miss Ora Lewis took all the responsibility of the technic for seven months and made many improvements during the period of her painstaking work. Dr. A. M. Tweedie has been carrying on the work since Miss Lewis' service and has made extremely valuable suggestions and alterations in the technic. My resident physician, Dr. H. G. Sloan, and members of my staff at Lakeside Hospital, Drs. Gamble, Eisenbrey and Pomeroy, have assisted in the clinical side.

THE NATURE OF HEMOLYSIS.

The red corpuscle is covered by an exceedingly thin and delicate membrane, which prevents the escape of its contents, the most important being hemoglobin. This investing membrane is very susceptible to chemical or thermal changes in its environment. If impaired by such changes a part or all of the hemoglobin will escape and become freely diffused in the serum. The corpuscles then become proportionately paler, and if all the hemoglobin is lost there will remain only the framework of the cell, designated as "shadow cell" or "ghost."

Free hemoglobin may be detected in the urine and other secretions. If in quantity, it stains all the tissues, causing a brilliant jaundice. This process is known as hemolysis and the agents causing hemolysis are known as hemolysins. Hemolysins may be roughly classified as inorganic and organic. Among inorganic hemolysins are ammonia, soaps, ether—any agent that will change the isotonicity of the blood serum. Among organic hemolysins are normal blood and tissue juices of alien species, and blood and tissue juices in certain pathologic states. In pernicious anemia, in certain fevers, occasionally in chronic suppuration, and in other general diseases there is such a change in the blood serum that when the red corpuscles from normal individuals are suspended in this serum hemolysis occurs. It may be at once asked why such hemolytic serum does not destroy the corpuscles of the patient *in vivo*. Two reasons suggest themselves why this does not always occur. The first is that the corpuscle undoubtedly shares the universal attribute of living matter whereby it is able, to a certain degree at least, to adapt itself to its environment. The second reason why hemolysis may not occur in the presence of hemolytic serum is that the process *in vitro* is not identical with that *in vivo*. A corpuscle, having adapted itself to a certain environment, may itself become so altered that when it is again suspended in normal blood serum it may undergo hemolysis.

The medical importance, if any, that these facts assume is determined by correctly answering the following questions: Is there a reliable technic for the determination of hemolysis? Are the changes in the serum and in the corpuscles thus produced by disease of a specific nature? Are they constantly present?

CONDITION OF THE TEST.

Many difficulties beset the technic. There are many inorganic hemolysins that must be avoided. The blood must be drawn and kept absolutely free from these. Red blood cells are extremely sensitive to changes in temperature. Provision for absolute control of the temperature must be made. As the corpuscles are very delicate, extreme care must be exercised in applying the mechanics of the technic. Experience has shown that if the serum and corpuscles are immediately separated, either by drawing the blood in sodium citrate solution or by immediate centrifugalization, the hemolytic action is either minimized or negative. The maximum reaction is obtained when the serum and the corpuscles are separated by clotting. The serum attains its maximum hemolytic power in about twenty-four hours. In securing normal blood one must bear in mind the fact that it is not possible absolutely to determine, except by an actual blood test, whether a given individual's blood will react as normal. But if these samples of supposedly normal blood are used and are tested against each other as well as against the blood of the patient, there is then but slight chance for error. Again, it has been shown that organic hemolysins are destroyed, hence rendered inert, by a temperature of 55 C. for ten minutes. Anticipating for a moment a part of what I shall say as to the results of our tests, I will state that in every instance this temperature destroyed the hemolytic power of the serum. The hemolysins of disease, so far as we have studied them, are of organic nature. Inorganic hemolysins, such as ammonia and other chemicals, are not influenced by heat. If, then, all the tubes of the entire test are made up in duplicate and one set subjected to a temperature of 55 C. for ten minutes, possible error from inorganic hemolysins may be excluded.

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* Read before the American Society of Obstetricians and Gynecologists, Baltimore.

[1] Jour. Med. Research, October, 1908.

The test is determined by noting the result of suspending normal red cells in the patient's serum and suspending the patient's cells in normal serum.

TECHNIC.

The technic in detail is as follows:

Facilities Required.—(a) incubator; (b) refrigerator: (c) centrifuge: (d) sterilizer; (e) one gross test-tubes, size one-half inch; twenty-four tubes, three inches long, one-fourth inch inside diameter; (f) test-tube racks made to hold seventy-two tubes, with each tube hole numbered consecutively in ink; (g) glass beads for defibrinating the blood; (h) several aspirating needles, with stylets.

Comment.—These tubes must be cleansed in isotonic salt solution only. The tubes to be set up in the test should be kept immersed in isotonic solution and taken out only when they are to be used. The large tubes that are used to collect the blood are cleansed with isotonic solution and dried. These tubes are used in pairs—one for obtaining the blood for the cells (in this tube a glass bead is placed), the other for blood for the serum. Both tubes are then closed with cotton stoppers wrapped in close-mesh cotton cloth, sterilized, and set aside for future use. Needles are similarly wrapped in individual packages and sterilized.

Obtaining the Blood.—The blood is drawn by aspirating a vein. The most convenient vein is usually the median basilic at the bend of the elbow. The field is scrubbed with soap and water, followed by ether and alcohol, then thoroughly cleansed with sterile water or, better still, with salt solution. The arm is firmly compressed well above the elbow by bandage or otherwise to dilate the vein. The needle is then inserted through the skin into the vein. Into the tube containing the bead 3 c.c. of blood are collected and the tube immediately and continuously agitated for about ten minutes. Defibrination of the blood is thereby accomplished. Into the other tube are drawn 10 c.c. of blood. This tube is kept at rest in a slanting position during the separation of the blood into clot and serum. If it can be conveniently done, it is better to secure the blood for the cells just before the tubes are to be set up, that is, about twenty-four hours later than the blood is drawn for the serum. The pressure from the arm should be removed before the needle is withdrawn: otherwise a greater amount of blood than is necessary will ooze from the puncture in the vein. The further preparation of the blood consists in putting the defibrinated blood into a tube containing 20 c.c. 0.85 per cent. saline solution made up with distilled water. This tube and the one containing the clotted blood are now placed for approximately twenty-four hours in the refrigerator. Cold facilitates separation of the clot and serum and preserves the blood. The separated serum is pipetted off, put into a sterile tube and again returned to the refrigerator. In precisely the same manner blood is taken from two or three apparently normal individuals and subjected to precisely the same technic. The supernatant fluid in the tube containing the corpuscles is poured off and 20 c.c. of fresh isotonic salt solution is added to each tube. The tube is then gently shaken until the cells are in complete suspension. The suspension fluid is now transferred to the various sera according to the formula.

Setting Up the Test.—We then have the corpuscles and the serum from four individuals, the patient and three supposedly normal individuals. Using the smaller test-tubes, 0.5 c.c. of the serum of each is added to 0.5 c.c. of a suspension of the red corpuscles of A, B, C. and D in 0.85 per cent. isotonic salt solution. The same is done with the serum B, C and D. The tests are put up in duplicate. The duplicate set is taken out of the refrigerator and placed in a water bath for ten minutes at 55 C. As previously stated, this destroys all organic hemolysins and constitutes a control in the technic. Testing the patient with three normals requires the use of thirty-two tubes arranged as follows:

Tube.		
1.		Serum A + cells of A
2.	(heated)	Serum A + cells of A
3.		Serum B + cells of B
4.	(heated)	Serum B + cells of B
5.		Serum B + cells of A
6.	(heated)	Serum B + cells of B
7.		Serum A + cells of B
8.	(heated)	Serum A + cells of B
9.		Serum C + cells of C
10.	(heated)	Serum C + cells of C
11.		Serum C + cells of A
12.	(heated)	Serum C + cells of A
13.		Serum C + cells of B
14.	(heated)	Serum C + cells of B
15.		Serum A + cells of C
16.	(heated)	Serum A + cells of C
17.		Serum B + cells of C
18.	(heated)	Serum B + cells of C
19.		Serum D + cells of D
20.	(heated)	Serum D + cells of D
21.		Serum D + cells of A
22.	(heated)	Serum D + cells of A
23.		Serum D + cells of B
24.	(heated)	Serum D + cells of B
25.		Serum D + cells of C
26.	(heated)	Serum D + cells of C
27.		Serum A + cells of D
28.	(heated)	Serum A + cells of D
29.		Serum B + cells of D
30.	(heated)	Serum B + cells of D
31.		Serum C + cells of D
32.	(heated)	Serum C + cells of D

Determination of Hemolysis.—The tube subjected to a temperature of 55 C. should be placed in the refrigerator long enough to acquire the same temperature as all the other tubes. All the tubes are now taken out of the refrigerator and placed in a thermostat at a temperature of 37 C. for two hours. At the end of this time they are again placed in the refrigerator for twenty hours. At this time the hemolysis may be determined. This, of course, is indicated by the pink coloration of the supernatant fluid and the condition of the sedimented cells. Accurate notes of all the cases are kept by the numbers on the tubes. The result is read off by members of the staff who have no knowledge of the identity of any of the tubes. These observations make up the tables to be presented.

RESULTS OF STUDY.

Many changes were made in the technic until the present was attained. The results are now usually uniform. Our particular study was directed toward the hemolytic reaction in the normal state, in pyogenic infections, in malignant tumors, in benign tumors and in tuberculosis.

Among miscellaneous cases there were nine instances of hemolysis, two in cases of grave eclampsia, one in a case of extreme hyperpyrexia due to hyperthyroidism several hours before death (the temperature at this time was 109), in one case of leukoplakia of the tongue, and in one case of psoriasis. The remaining four occurred in cases of chronic diseases without definite diagnosis.

The results of our study may be tabulated as follows:

Total Number of Cases Studied, 591.

		Hemolysis.	
		No.	P.C.
Normal subjects	211	0	0
Pyogenic infection	71	7	10
Benign tumors	55	0	0
Cancer	153	130	85
Postoperative cancer cases with clinical recurrence	11	11	100
Postoperative cases without clinical recurrence 3 weeks to 15 years after operation	37	0	0
Tuberculosis	52	48	92

Extracts of malignant tumors uniformly caused total hemolysis. Extracts of benign tumors uniformly caused no hemolysis.

COMMENTS.

The cancer cases showing no hemolysis were mostly in the advanced *inoperable stage*. Only *an occasional* early case failed to show hemolysis.

Cancers on mucous membranes showed hemolysis more frequently than cancer in tissue, as the breast.

All cases of tuberculosis showed reverse hemolysis, that is, normal serum hemolyzed the *patient's* corpuscles. In all cases serum heated to 55 C. for ten minutes prevented hemolysis. Sudden chilling of the blood according to the method of Hoover and Stone caused a marked increase in the hemolytic action. Plasma obtained by *immediately centrifugalizing* the serum caused little or no hemolysis in hemolytic cases.

The hemolytic property reaches its maximum about twenty-four hours after the blood is drawn.

In the cancer group the cases in which the disease was entirely removed lost their hemolytic *property in from* twelve to twenty-one days after operation.

In cases in which an incomplete operation was performed the hemolysins continued indefinitely.

CONCLUSIONS.

Our conclusion is that hemolysis occurs in a number of diseases. It occurs in great frequency in cancer and tuberculosis. The reaction in tuberculosis is the reverse of that for cancer. From the clinical standpoint hemolysis offers *additional evidence* which may be used in the diagnosis of cancer or tuberculosis. This evidence is not as yet specific.

1021 Prospect Avenue, S. E.

THE VALUE OF A ROUTINE PHYSICAL EXAMINATION.*

EDWIN W. GEHRING, B.S., M.D.

Instructor in Physiology, Medical School of Maine; Adjunct Physician to the Maine General Hospital, Portland; Physician to Portland Tuberculosis Class.

PORTLAND, MAINE.

One gets the impression from reading certain books on general medicine that diagnosis constitutes three-fourths of the physician's work, and that having ascertained the nature of a patient's ailment, anyone can institute treatment. However widely we may dissent from this view, we must concede the important part played by diagnosis in prescribing for our patients, to say nothing about the intellectual stimulation it affords the practitioner. In itself it is so absorbingly fascinating that the Germans, for example, may be said to look on it as an end, rather than as a means to an end, and to concern themselves not with the treatment suggested but with the autopsy to confirm or to disprove their original findings. Nevertheless, for all of us, the recognition of disease from symptoms is essential for skilful, clear-headed management of any case, symptomatic prescribing being unscientific and unjustifiable save in rare instances. Convulsions, dyspnea, diarrhea, cardiac palpitation are symptoms, for which one should seek the underlying cause, rather than adopt palliative measures whose effects, at best, are transient.

The word "diagnosis," as I use it, includes the recognition of physical signs of disease, a careful discrimination among and weighing of these, and a final arrival at the true nature of the affection in question by consideration of signs in connection with the history of the case. Anyone who has read many such case histories and records of physical examinations with probable diagnoses, and who has then been fortunate enough either to see or to read accounts of autopsies on the bodies of these same patients, must have *been impressed with the* discrepancy which too often exists between antemortem and postmortem discoveries.

About a year ago it occurred to me that a review of many cases might afford some explanation of our mistakes. *Accordingly, since that time I have studied one* hundred instances of disease, some of which came to autopsy, others being ultimately diagnosticated and successfully treated. The revelations of this work suggested the title of my paper, for, among other causes to which our errors may be *attributed, the following seemed most* prominent: First, lack of clinical, book and laboratory knowledge; second, untrained powers of observation; third, absence of system in obtaining histories and making physical examinations; fourth, inability to interpret data secured; fifth, the fact that the problem is incapable of solution.

I have attempted a consideration of just one part of one of these causes—the lack of systematic physical examination. In the series of cases investigated, typical *of what the average general practitioner* sees, as many failures in diagnosis could be assigned to this as to any other one cause. Both radials were not palpated simultaneously, the gums were entirely overlooked, no count was made of white blood corpuscles, the urine was not examined for sugar. This fact is all the more deplorable because a habit of routine work can be acquired by everyone, a fact which is not in the same degree true of the acquisition of knowledge, or of the power to observe, or, having seen, of the ability to interpret. The haphazard, accidental method of procedure is always productive of *confusion and error*, rather than conducive to enlightenment, accuracy, and truth. To bring *forcibly to mind the real value* of routine work, I have chosen several cases in which diagnostic blunders were the direct result of no regular order or plan of examination. Histories and results of examination are stated precisely as in the original.

Case 1.[1]—Male, aged 32, occupation cook, came to the hospital on Jan. 6, 1899. His family history was negative and previous history good. He denied any syphilitic infection, but admitted having had urethritis some years previously. He had never had an attack similar in character to this. The present illness dated from Dec. 30, 1898, eight days before applying for relief at the hospital. The first symptoms seem to have come on rather suddenly with a rigor of marked severity, followed by fever and later by profuse sweating. Almost immediately afterward he was seized with intense muscular pains, extending over the trunk and limbs; these pains were agonizing in character, increased on the slightest exertion, and had been present with varying degrees of severity until his admission. They prevented him from sleeping, and he spoke of them as being not unlike rheumatism—dull and aching while he was in the recumbent posture, becoming intensely lancinating as soon as the slightest exercise was attempted. His appetite, which had previously been of the best, was absolutely lost and he had eaten nothing for three days. With the exception of some slight frequency of micturition and a slight cough with expectoration, there was nothing else of importance in the history of the illness.

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*Read before the Maine Medical Association at Bangor, Maine, on June 11, 1908

[1] Cases 1, 2 and 6 are taken from Cabot's "Case Teaching in Medicine."

Examination.—The patient is a rather large, well-formed man, the mucous membranes are of a good color, tongue moist, coated with a white fur. The eyes are markedly injected, the eyelids slightly but distinctly edematous, and an erythematous area is present above the swellings. Negative results are obtained everywhere on auscultation and percussion, except at the bases of both lungs posteriorly, where a few moist râles are heard. The heart sounds are clear. The liver and spleen are not palpable; the abdomen is soft and natural in appearance, negative results being obtained on palpation. No rose spots are seen. There is no superficial glandular enlargement. Pulse 100, respirations 24 a minute. Later the temperature ranged in the vicinity of 103 F. for three weeks and then gradually subsided. The urine is normal in color, acid, specific gravity 1.026. Microscopicallly, it shows pus corpuscles in considerable quantity, epithelial cells and a few mucous cylinders.

From such data can we solve the problem? Severe pains in the trunk and limbs accompany such infectious diseases as influenza, tonsillitis, dengue, variola, trichiniasis, and yellow fever. Muscular rheumatism can not be ignored; it is a common diagnosis of the real condition existing here. Can one exclude neuritis? Certainly not if the knee-jerks are diminished or absent, in which event tabes and anterior poliomyelitis also come to mind. Note that in the original examination no attention was given the gums, pupils, throat, blood, reflexes, or the urine for sugar. These were all subsequently found to be normal except the blood, which showed a leucocytosis with normal hemoglobin. The increased white count suggested a differential count, which, in its turn, revealed eosinophilia. Excision and histologic inspection of a bit of biceps muscle demonstrated trichinæ.

In the clinic of Dr. Adler at the German Hospital, New York, eight cases of trichiniasis with eosinophilia were admitted between Nov. 1, 1905, and Feb. 1, 1906. Trichinæ could be seen in the muscles of only three of these, yet all showed areas of infiltration and muscle fiber degeneration. To quote Ottenberg: "The combination of eosinophilia with edema of the face, which occurred in six of the above mentioned cases; muscular pains, present in all, though pronounced in only two; and fever, occurring in seven cases, makes a clinical picture which could hardly be exhibited by any disease other than trichiniasis." In his mind, "there is no doubt that when blood examinations are not made, many, if not all, particularly of the mild cases of trichiniasis, are mistaken for other affections, notably typhoid, intestinal intoxications, muscular rheumatism or influenza. Indeed, in the eight cases here recorded, six patients were admitted to the hospital as probable cases of typhoid, one as a case of muscular rheumatism, and only one with a suspicion of trichiniasis."

In temperate climates trichiniasis is the only chronic febrile disease with eosinophilia and severe muscular pains. Blood examination, therefore, renders the diagnosis comparatively easy. In the tropics other fevers accompanied by the presence of intestinal parasites complicate the situation; but in any climate these cases so closely simulate typhoid and muscular rheumatism as readily to be mistaken for either without blood examination.

CASE 2.—A boy, 14 years old, of gouty family history, complains for a year of frontal headache, not very severe, but persistent and wearing. Appetite excellent, but digestion not as good as it has been. Has suddenly grown very irritable, having previously been sweet tempered. He has lost flesh during the year and seems listless and weak. Sleeps well. Bowels somewhat constipated. Getting pale. Heart, lungs and abdomen negative. Knee-jerks not easily obtained, but gait shows weakness. Urine, normal color, acid, 1.028, no albumin. Sediment negative. Temperature 98.0, pulse 96, no edema, blood negative.

This sounds complete, but it lacks the very points which make a diagnosis possible. We consider the various causes for change in disposition, and find them enumerated as masturbation, brain tumor, diabetes, psychosis of puberty. Eyestrain, adenoids, frontal sinus disease, malaria, pubescence, are considered as possible causes of frontal headache in a boy of fourteen years. The significance of pallor is dwelt on; we reflect on loss of flesh despite good appetite, together with persistent headache and diminished knee-jerks.

Two facts not mentioned in the attending physician's report, and, therefore, omitted from the above quoted history, now come to light under the routinist—the quantity of urine passed in twenty-four hours, three quarts; and the amount of sugar in that urine, 5 per cent. The glycosuria, being persistent, denoted diabetes mellitus.

CASE 3.—A male child, 10 months old, was brought to the Infants' Hospital in Boston from a town twenty miles distant. The physician accompanying it said that he had seen the infant daily for one week, during which time its upper extremities were habitually extended over the head. Any attempt at moving them was resented by infantile shrieks. The child had been receiving a sterilized milk mixture which it had taken with avidity, and was apparently content when not disturbed. The diagnosis was double dislocation of the shoulder joints, and for their reduction the little patient had been sent to a hospital.

Further Examination.—Another student and myself were given an opportunity, through the courtesy of Dr. Stone, of verifying the diagnosis and we failed to do so. We did note, however, an unmistakably rachitic head, a slight rosary, and somewhat enlarged epiphyses; the eyes presented nothing remarkable, but, unfortunately for the first man's reputation for thoroughness, the gums were spongy and bleeding.

Treatment.—Under the circumstances it was deemed wise to heed the call for a different diet and orange juice. In less than two weeks' time the child moved all its extremities freely.

My point is that any person who had acquired the habit of examining patients systematically would have diagnosticated scurvy at once. For this and other reasons I have since that time included the gums in my routine examination of every patient.

CASE 4.—A prominent medical consultant of my acquaintance in the middle west was one day asked by a practitioner in an outlying town to see with him one of those cases of malaria which prove the "non-specific action of quinin in that disease," to use his own words. The history, in brief, was that of one who had had regularly recurring chills every second day for three weeks, during which time quinin powders had been used faithfully without the slightest effect on the course of the disease.

Examination.—The consultant went in search of these remarkable malarial plasmodii armed with microscope, cover-glasses and slides, blood-stain and a Talquist scale. At 4 p. m. the patient was found feeling chilly, temperature 100.9 F., pulse 88. Eyes, throat, gums and ears were normal. Marked pallor formed the background for the faintest flush over the cheek bones. A drop of blood from the ear showed hemoglobin, 90 per cent., and a similar drop under the microscope proved positively the absence of malarial organisms. Examination of the lungs, including inspection, percussion, palpation, whispered voice, was unsatisfactory. Auscultation disclosed below the right clavicle persistent, localized, cog-wheel respiration, indicating a partial obstruction of alveoli to the entrance of air. The remaining examination of the heart, arteries, liver, spleen, kidneys, glands, tendon reflexes and urine was negative. Potassium iodid, ten grains after meals, was ordered, and produced at the end of one week sputum containing tubercle bacilli.

Here, then, is a sample of a snap diagnosis based on regularly recurring chills without making any examination whatever.

The case also explains the origin and suggests the worth of reports, occurring not infrequently in our journals, concerning the non-specific action of quinin in malaria. Three lessons are suggested: first, the value of a routine physical examination; second, that from the blood only can a positive statement be made regarding the presence of the malarial organism; third, an intermittent fever which resists quinin in capsule is not of malarial origin.

Case 5.—A consultant was called to see a case of convulsions with anemia in a woman of 40. We must admit the condition unusual if convulsions and apparent anemia were the only symptoms, but one can not sympathize with a man who failed to diagnosticate a disease so easy of detection as this one proved to be, because he had not examined thoroughly.

Conditions Considered.—He had considered the various causes of convulsions: uremia and hepatic toxemia, cerebral concussion or compression, diabetes, epilepsy, hysteria, sunstroke, syncope, opium, alcohol or gas poisoning and even apoplexy. None would fit. Anemia was taken for granted because of paleness. Routine examination should include inspection of the gums, where, in this instance, with the aid of a pocket magnifying glass, was found the so-called "lead line," which is not a line at all. This suggested blood smears and stippled red cells were at once discovered; hemoglobin, 90 per cent. And yet the woman was said to be anemic!

Lead Poisoning.—The "lead line" was also found on the gums of the three children of the family, and in all probability would have appeared on the father's had not his teeth been false.

Emphasis is again laid on the word "routine." Did we all have some definite, comprehensive scheme of procedure and follow it in every case, I should not in the past have been able to diagnosticate plumbism in two persons, each of whom had previously consulted two different members of the metropolitan profession for the same ailment. This case also calls to mind, as did Case 2, the wholly unjustifiable diagnosis of anemia because of paleness. Pallor may mean anemia, but often does not. Consumptives, neurasthenics, persons with deficient skin circulation are pale, but few of them are anemic. The Talquist hemoglobin scale alone can decide in the vast majority of instances.

Case 6.—A painter, 23 years old. Family history negative. General health always good. Gonorrhea eight months ago, a slight mucopurulent discharge still persisting. Seven months ago had an attack of colic, lasting three or four days, similar to his present trouble, but less severe. Bowels move once daily without medicine. Seven days ago began to have cramps which have grown rapidly worse since and have been only partially relieved by large doses of morphin and atropin. The abdomen at first was generally tender, especially just to the right of the navel. The bowels have been constipated during the present illness, in spite of repeated doses of salts and enemata. Very little gas passes by rectum. Has vomited three times, the vomitus containing nothing of note.

Examination.—Examination shows a poorly nourished man, suffering acutely from general colicky pains in the abdomen. Expression pinched and anxious. No jaundice. Faint blue line on gums. Radial arteries slightly thickened. Heart and lungs normal. Abdomen distended and tympanitic. Between attacks of pain no marked tenderness is elicited even on fairly deep pressure. The distended, moving coils of intestine are visible through the thin abdominal walls, which are somewhat rigid everywhere. The finger high up in the rectum strikes a tender point a little to the right of the median line. The pulse is small and has been steadily gaining in frequency. The temperature taken only during the past five days has never gone above 99.0 degrees. Urine scanty, acid, high-colored, specific gravity 1.026. No sugar or albumin. Sediment negative. Leucocytes five days ago 35,000, now 19,000.

This case illustrates a mistake frequently made when one of the conditions present is so obvious as to eclipse all others—the failure to consider all the facts presented. Here are the results, for example, of a thoroughly systematic examination. Lead poisoning was so conspicuous that a leucocytosis of 35,000, which never occurs in uncomplicated plumbism, was overlooked and led to serious blunder in diagnosis. That count in conjunction with a steadily rising pulse and a distended, tympanitic, rather rigid abdomen, pointed to a probable focus of inflammation in the abdominal cavity. Operation showed general peritonitis due to appendicitis.

Instances might be multiplied indefinitely to strengthen my contention that for a thoroughly good physical examination some fixed scheme of procedure is necessary. I therefore presume to suggest one which, I feel, ought to be followed in every first examination, at least, in order that by the prominence of one or more symptoms one may not be led astray in his train of thought, may not confine his entire attention to one organ to the exclusion involuntarily of all others, may not render a snap diagnosis because of preconceived opinions.

A minimum examination should include attention to the weight, pulse in both radials at the same time, temperature, hemoglobin, blood; the urine for quantity, albumin, sugar, bile, specific gravity, reaction, and sometimes sediment; the pupils—I would almost add fundus—throat, gums, ears, reflexes, glands; the liver, spleen and kidneys, for palpation; the heart, lungs and arteries.

The tongue's appearance is of so little diagnostic importance that its routine inspection may be omitted. Dyspepsia and a clean tongue indicate hyperchlorhydria, but the so-called typhoid and scarlet fever tongues are not significant.

The hemoglobin test alone can eliminate anemia. If the scale shows less than 75 per cent. of hemoglobin, a blood examination ought to be made. This statement refers, of course, to the possibility of an anemia and does not apply to the making of blood smears to determine the presence or absence of malarial plasmodii, of stippled red cells, of an eosinophilia; or to the leucocyte count for purposes of differentiation between a possible typhoid and a pneumonia or appendicitis or other septic condition; or to the Widal reaction. All of the latter ought to be more generally employed.

Science progresses by additions and subtractions. Nothing better illustrates progress by subtraction than the change which has taken place regarding our conception of what constitutes urinalysis. Formerly these contained references to the various kinds of cells seen, and we thought we knew their source and significance. To-day an excess of cells means exfoliation or inflammation somewhere in the genitourinary tract, the precise location being determined, if at all, by the patient's symptoms. We don't know the difference between a lymphocyte and a renal cell, hence it is more correct to speak of cellular than of epithelial casts. The various kinds of crystals are of just as little importance as cells. Hyaline and even finely granular casts may be found in any urine. One swallow doesn't make a summer or one cast a nephritis. Here, again, it is an excess of casts that should claim one's attention. They may be found after any violent exercise, in all fevers, in heart disease or anything else producing passive congestion, in senility, in the different varieties of anemia and leukemia, after the ingestion of all poisons, as well as in the three varieties of nephritis, although in Bright's disease they are usually more numerous than in other conditions. Any one of these causes may, likewise, account for the presence of albumin in the urine. The urea test is worthless, for the amount of this product in urine depends on the quantity of nitrogenous foods eaten, the digestion, absorption and the amount the individual normally retains. Equally worthless are the indican, phosphate, chlorid and uric acid tests.

If I could know but two things about a specimen of urine, I should ask for the twenty-four hour amount, and whether the greater part was passed during the day or night. One can easily inform himself, however, concerning the other points mentioned in the minimum examination. Never look for anything else, unless it be diacetic acid and acetone, and then only—save in cases of cyclic vomiting in children—if sugar be present. Personally, I never examine a sediment unless albumin is present.

No one questions the value in every case of examining such organs as heart and lungs. Many, however, will demur at the ears, and yet tophi have been found in them; the gums have been known to disclose lead poisoning; throat examinations, especially in very young children, often reveal diphtheria which might not otherwise be suspected until too late. Kidney palpation, it is said, will demonstrate 50 per cent. of all kidneys to be movable in the female, a condition to which innumerable symptoms are attributed, and in connection with which it is well to bear in mind the opinions of men of large experience, that it is not the movable kidney, rather is it the knowledge of its presence that accounts for symptoms; and, lastly, after systematic examination of each patient's arteries, no one of us will ever be guilty of the question, "Is arteriosclerosis often seen?" only to be told, "Yes: it is one of the commonest conditions we meet": for the arcus senilus, the hot feet of old persons and the burning hands of old washerwomen, the headaches, vertigos and hemiplegias of those past forty, angina pectoris, chronic interstitial nephritis, and the so-called visceral gout of the English are all manifestations of arteriosclerosis.

The examination which I propose requires from thirty to forty minutes time. If it were adopted and used intelligently, I do not hesitate to express my belief that it would supply us with more valuable information concerning the physical conditions of our patients than we are now generally obtaining. When we cease to commit the common sin of omission, we shall retain our patients instead of compelling them to seek aid of osteopath, so-called Christian scientist or other charlatan, to whom, be it said to our shame, many persons resort because the regular practitioner has not "made good."

A PLEA FOR THE PROMPT EVACUATION OF THE UTERUS IN THE TREATMENT OF ECLAMPSIA.*

HENRY D. FRY, M.D., Sc.D.
WASHINGTON, D. C.

In the whole range of obstetric practice, two diseases have claimed pre-eminently more victims and brought more sorrow into the human family than all others combined. They are sepsis and eclampsia.

For centuries a cloud of mystery obscured the causes of these two diseases. That of childbed fever baffled research until the brilliant observations of Semmelweis, and the later investigations of Pasteur revealed the cause and pointed out a line of treatment, both prophylactic and curative. Asepsis has almost eliminated puerperal infection, and the vigorous campaign waged against germs for the past half of a century has antagonized their virulence to such an extent that we seldom see now the destructive ravages of this disease. But what about eclampsia?

Zweifel has well said: "It is a disease of theories." About the time that Semmelweis made his fruitful observations regarding the cause and prevention of childbed fever Lever and Rayer demonstrated the presence of albuminuria in eclamptic patients. Frerich pointed out the close resemblance of eclampsia to the uremic convulsions of Bright's disease, and the attention of investigators was focused on the kidneys. The later destruction of theories founded on this line of investigation opened Pandora's box and a multiplicity of evil influences have been since evolved to explain the nature and causes of the disease. It is unnecessary even to enumerate these various theories, or, as they may be called, fancies. Passing over intermediate ground one comes to more recent studies and looks with encouragement of success to the theory of autointoxication. Intimately associated with fetal metabolism is the development of a toxemia in the pregnant woman. The nature of the poison and its source are yet unknown. The antagonism of healthy organs to the poison and its elimination from the system of the pregnant woman are important points for future study to elucidate. We believe that the effect of the poison is to produce certain visceral lesions, principally of the liver and kidneys, which, if unchecked, will pass beyond repair and lead to a fatal issue. Functional inactivity of the liver is the usual accompaniment of pregnancy. Hepatic involvement leading to degenerative changes, thrombosis of the perilobular veins and necrosis, further cripples the function of the liver. It is unequal to the task of disintoxication of the poison and a hepatic toxemia is induced.

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Eliminating fancies from consideration, I shall deal only with facts.

The essential facts bearing on the line of treatment advocated in this paper are these:

Eclampsia occurs before, during and after labor.

It may end fatally without the occurrence of convulsions; after one or a few convulsions only; or not until after a number of convulsions. It is admitted, however, that the maternal mortality increases progressively with the number of convulsions.

The termination of pregnancy, spontaneous or artificial, exerts a beneficial influence over the disease.

Death may occur before or after the termination of pregnancy.

Postmortem lesions are found principally in the liver, kidneys, heart and brain. Hemorrhagic foci and necrotic changes are demonstrated.

The termination of eclampsia in recovery or death depends largely on the progress of these visceral lesions. If the lesions have passed beyond the reparative stage before the termination of pregnancy, death will necessarily result. There is no way to determine the progress of these lesions. They may have passed the reparative stage before the onset of convulsions, but ordinarily this is not the case until after a number of convulsions have occurred. In evidence of this is the recovery of many eclamptic patients in spite of the fact that repeated convulsions had taken place. The danger line may be passed early or late in the toxemia. Having no means at our command of ascertaining when the lesions begin and to what extent they have progressed, the only safe rule to make is to terminate the pregnancy as soon as possible after the first convulsion.

Eliminate pregnancy and cut off the source of supply of the poison; then only is one in a position to eliminate successfully by treatment the poisonous agent or agents circulating in the woman's system. Her liver and thyroid gland may then be equal to the task of disintoxication, and her bowels, kidneys, skin and lungs to that of elimination.

On the other hand, most of the text-books of obstetrics and many obstetric writers give secondary importance to the obstetric treatment and primary importance to the general treatment of the toxemia. If labor pains have not begun they advise chloroform, morphin, chloral and veratrum viride to control the convulsions, and hot baths or hot packs, purgatives, salt solution, blood letting, etc., to eliminate the poison. Twenty-four hours, sometimes forty-eight hours or even longer are lost during which fresh toxin is being absorbed and pathologic visceral changes are progressing. These antepartum cases of eclampsia are the most serious with which we have to deal and give the highest mortality rate. We should take no chances in such a desperate condition, by attempting to eliminate a poison while the source of supply is allowed to go on. Treat a case of eclampsia just as you would a case of placenta prævia and recognize that the woman's safety depends on the immediate evacuation of the uterus. In one case you stop fetal metabolism, and in the other you stop hemorrhage. Having accomplished the evacuation of the uterus as soon as consistent with the safety of the woman, then, and not before, use your energies to eliminate from her system the poison that has already been absorbed. Consider the pathologic lesions that the poison is producing and save your patient's life, if possible, by emptying the uterus before these lesions have passed the reparative stage. Take nothing for granted. The progress of these visceral lesions is an unknown factor. Try to act on the safe side of the danger line, and to do this act at once. If your patient has had one convulsion do not wait for her to have two. Do not waste valuable time by eliminative treatment of the toxemia.

By this method the mortality of eclampsia will be reduced to its lowest figure. If, in spite of the prompt evacuation of the uterus, a fatal issue be the result, it is because of the early involvement and rapid progress of the visceral lesions. To save patients in this class of desperate cases one must wade up-stream and shut off the current of poison in the pre-eclamptic stage. This radical treatment is urged until we have a better method founded on better pathology. Future work may elucidate the nature and sources of the poison and point out a better line of treatment, but at present let us acknowledge our inefficiency and in the meantime save the lives of eclamptic women by terminating the pregnancy.

Besides the visceral lesions recognized as resulting primarily from the toxemia, postmortem examinations reveal secondary lesions in various organs due to complications which are liable to ensue. They are edema and congestion of the brain, apoplexy, edema of the larynx or lungs, pneumonia, nephritis, degeneration of the myocardium, etc. The frequency and extent of such secondary lesions bear a close relation to the number of convulsions that have occurred; therefore, another indication exists for the termination of pregnancy by prompt evacuation of the uterus, because that line of treatment is the quickest method of checking the recurrence of the convulsions.

In November, 1904, this method was adopted at Columbia Hospital and since then in my private practice. We can now report 15 cases of eclampsia and 1 of pre-eclamptic toxemia, with 1 maternal death. These cases were under the care of Drs. Moran, Sprigg, Roman, Kelly and myself.

The accompanying table shows these reports in abstract.

Thirteen of the cases were of primiparæ and 3 of multiparæ.

Ten were antepartum, 5 full term, and 1 not stated.

The number of convulsions that had occurred before artificial evacuation of the uterus was, respectively, 8, 16, 4, 7, 4, 3; not mentioned, 0, 2, 5, 3, 5, 1,1,1, 1. Twelve of the patients had no convulsions after the evacuation of the uterus; 2 had 2 each, and 2 had 1 each.

Three of the patients who had no postpartum convulsions were comatose for some time. One of these recovered after ten hours' coma; one developed puerperal mania and recovered, and one died after twelve hours' coma. In the fatal case (Dr. Kelly's, No. 7) the patient was abandoned by one physician; she was comatose when she came under the care of a second physician at noon Aug. 23, 1907, and when Dr. Kelly operated, without anesthesia, about 6 p. m. of the same day, she was practically moribund.

The methods employed to effect prompt delivery were: vaginal Cesarean section, in 12 cases; manual dilatation and forceps in 2; multiple incisions, manual dilatation and forceps in 1; symphyseotomy and forceps in 1. After vaginal Cesarean section, delivery was completed by podalic version or forceps. Patient 14 was a primipara who had a convulsion after fourteen hours of labor at full term. I saw her immediately after the convulsion and found a contracted pelvis (obstetric conjugate 3 inches). Symphyseotomy was performed and the infant delivered by forceps. There was no return of convulsions. Patient 8 was delivered by vaginal Cesarean section and podalic version on account of pre-eclamptic toxemia. In spite of active treatment, the gravity of the symptoms increased and the patient was on the verge of convulsions. She suffered from the usual symptoms of toxemia, had albuminuric retinitis, a large amount of albumin and casts with deficient kidney excretion. The report of this case is included in the table in order to give a full record of all the vaginal Cesarean sections that have been performed at Columbia Hospital. The vaginal Cesarean section, Case 8, was performed at my private hospital.

Statistics of eclampsia treated in public hospitals naturally give a worse result than those obtained from private sources. The uterus may be evacuated promptly in the sense of operating on the patients immediately after admission to the hospital, but unfortunately a large majority of these patients have been neglected and have had numerous convulsions before being brought to the institution. Only five of the fifteen patients tabulated, strictly speaking, can be said to have been delivered promptly; that is, they had had less than three convulsions. One of the patients had had 16 convulsions; one, 8; one, 7; three, 5; one, 4, and two, 3. In the fatal case (No. 7) the patient was almost moribund when admitted, and should not, in truth, be counted against the method. Patient 2 had had 16 convulsions and recovered. One maternal death in the 15 cases gives a mortality of 6.66 per cent. Cases 8 and 15 were treated in my private hospital, and, as they represent clearly the method of treatment advocated in this paper, I will report them briefly.

Case	Operator	Date	Age	Color	Para	Duration of Pregnancy Months	Number of Convulsions Before Delivery	Method of Delivery	Number of Convulsions After Delivery	Results	
										Mother	Child
1	Dr Moran	12/ 2 04	21	W	1	7	8	Vaginal Cesarean	None	Recovered	Lived a few hours
2	Dr Moran	12/25 04	22	C	1	7	16	Vaginal Cesarean	One	Admitted in eclampsia Recovered.	Premature. Lived six hours.
3	Dr Sprigg	3/ 6 '07	30	C	3	6½	4	Vaginal Cesarean	None	Admitted in eclampsia. Recovered.	Still birth.
4	Dr Sprigg	6/14 '07	24	W	1	9	7	Vaginal Cesarean	None, but very restless and comatose for longtime P. mania.	Admitted in labor. Recovered.	Lived.
5	Dr Sprigg	11/21 '07	23	W	1	7½	5	Vaginal Cesarean	None	Admitted in eclampsia but not in labor. Recovered.	Lived, although premature.
6	Dr Sprigg	10/30 '06	22	W	1	9	3	Multiple incision of cervix Manual dilatation and forceps.	Two	Admitted in labor. Recovered.	Still-birth.
7	Dr Kelly.	8/23 07	19		1	7¼	?	Vaginal Cesarean	No convulsions but never became conscious.	Comatose when admitted. Died.	Lived a few hours.
8	Dr. Fry	11/18 04	23	W	1	6½	0	Vaginal Cesarean	None	Pre-eclamptic toxemia. Placenta prævia. Recovered.	Lived 2 hours
9	Dr Fry	4/11 06	23	W	1	8½	2	Vaginal Cesarean	None	Admitted in labor. Recovered	Lived few hours
10	Dr. Fry	3/25 '07	16	C	1	?	5	Vaginal Cesarean	One (slight).	Admitted in eclampsia. Recovered.	Lived few hours.
11	Dr. Fry	11/ 9 '07	33	W	1	9	3	Vaginal Cesarean	None	Admitted in eclampsia. Recovered.	Lived.
12	Dr. Fry	12/11 '07	17	W	1	7	5	Vaginal Cesarean	Two	Admitted in eclampsia but not in labor. Recovered.	Lived 23 days; premature.
13	Dr Fry	1 4 08	32	W	1	7	1	Vaginal Cesarean	None	Recovered	Lived 3 months.
14	Dr. Fry	5 18 06	23	C	1	9	1	Contracted pelvis. Symphyseotomy and forceps.	None	Recovered	Still birth
15	Dr. Fry	12/ 3 '07	30	W	1	8½	1	Mid forceps after manual dilatation.	None, but comatose for 10 hours	Recovered	Lived
16	Dr. Roman	2 11 08	25	W	1	9	1 severe	Mid forceps after manual dilatation	None	Recovered	Lived.

CASE 8.—*Patient.*—Mrs. B., II para, aged 30. First pregnancy and labor normal.

Present Pregnancy.—Urinalysis during the second pregnancy was satisfactory until the eighth month of pregnancy, Nov. 22, 1907, when a large amount of albumin and a few hyaline casts were reported. The patient had taken a long automobile ride a few days before and the weather was decidedly chilly. November 25, she passed 88 ounces of urine with less albumin, specific gravity 1009, urea gr. 3 per ounce. November 27, urine was 108 oz.; albumin and specific gravity the same, urea gr. iv; November 28, 96 oz.; albumin 5 per cent. by volume, specific gravity 1008, urea gr. v; few hyaline casts. The patient entered my private hospital Nov. 28, 1907, and received active treatment. The large output of urine was due to slow colonic irrigation with normal salt solution. Her headache and nervous irritability increased and at 12:50 p. m. December 3, she had a convulsion.

Operation.—She was immediately carried to the operating room and chloroformed. The cervix was found to be effaced, the os softened and dilated to about the size of a silver half-dollar. Dilatation was completed manually and the infant delivered with forceps in seven minutes.

Postoperative History.—The patient was returned to bed and remained unconscious for ten hours. Her mind cleared up; there was no return of convulsions, and the urinalysis became normal after Dec. 27, 1907. The infant was about two weeks premature, weighed 6 lbs. 8 oz., and increased to 7 lbs. 4 oz. at the time of leaving the hospital.

CASE 15.—*Patient.*—Primipara, aged 32.

Pregnancy.—Last menstruation May 22, 1907. The patient passed a normal pregnancy and urinalysis was satisfactory until Dec. 29, 1907. On December 23 she passed 32 oz. of urine, specific gravity 1024; no albumin; urea gr. xiv per ounce, no casts. December 27, she noticed swelling of the ankles and had a headache in the morning. December 28, she had a severe headache all day; her face was swollen and she passed little urine. On December 29 I was called to see her at 10 o'clock at night, suffering, as she supposed, from "biliousness." She had severe headache, was vomiting, and her eyelids were edematous. A specimen of urine was obtained and it solidified by heat. Morphin was given hypodermically and a nurse was placed in charge of the case for the night. The next morning, December 30, the patient was brought to my hospital. The urine contained 75 per cent. albumin, hyalin and granular casts. The patient was treated actively by purgation with salts and given slow colonic irrigation with normal salt solution. Hypodermics of morphin were given p. r. n. to relieve her vomiting and restlessness and 15 grains of thyroid extract daily. She had a severe convulsion at 6 p. m. Jan. 4, 1908. In the meantime the condition of the urine showed improvement. The total quantity excreted was not ascertained December 31 and January 1, on account of the free purgation. Ten ounces on December 31 gave a specific gravity of 1020; 50 per cent. albumin; hyalin and granular casts. On Jan. 1, 1908, urine was 18 oz.; specific gravity, 1016; albumin, 25 per cent.; casts same; January 2, 48 oz.; specific gravity, 1018; albumin, 30 per cent.; urea gr., v; casts less. On January 3, for the twenty-four hours preceding the convulsion the patient passed 300 gr. of urea, and the amount of urine was 50 oz.; specific gravity, 1015; albumin, 40 per cent.; urea, 1 per cent.; casts same as previous examination.

Operation.—Immediately after the convulsion the patient was carried to the operating room and chloroformed. The cervix was not effaced; the os was closed. Vaginal Cesarean section was performed, with podalic version and forceps to the aftercoming head. Delivery occupied ten minutes; the operation was completed in thirty minutes and the patient put back in bed.

Postoperative History.—The patient recovered with no return of the convulsions. On the second day after the operation the urine amounted to 104 oz.; specific gravity, 1010; albumin, 10 per cent.; urea gr. ivss; few casts. From January 10 to 16, inclusive, there was only a trace of albumin and after January 18 it disappeared. There were no casts after January 20. On the seventh day after the operation the patient had a severe secondary hemorrhage from between the bladder and cervix. The cervical incision had been sewed with chromic catgut. The cavity was washed out with hot water and packed with sterile gauze. No further complications during convalescence. The infant weighed 3 lbs. 4 oz., was asphyxiated, but soon revived. It was placed in the incubator and fed by gavage. The infant seemed vigorous and was removed from the hospital when two months old. It died from an acute attack of indigestion when three months old. It weighed 5 lbs.

The mortality of the infants is high by this treatment of immediate delivery, but not more so than by pursuing a conservative line of action. The removal of the infant from its dangerous environment does not diminish its chances of survival any more than to leave it *in utero* subjected to the influences of maternal toxemia and to that of the eclamptic seizures. In these 16 cases the infants were premature in 10; full term, 5; not mentioned, 1. There were 3 still-births. Six infants lived only a few hours after birth; one, 23 days, and one, 3 months. Five of the 16 survived—a mortality of 69 per cent.

The mortality of the full-term infants was 40 per cent., and of the premature, 80 per cent.

It is only a fair inference to make that some of the infants that died could have been saved by more timely interference.

The number of cases of eclampsia which forms the basis of the conclusions arrived at in this paper is too small to formulate any rule if unsupported by the work of other investigators, but the lowest maternal mortality obtained by any method of treatment is by the immediate termination of pregnancy.

Liepman[1] says that the statistics of the clinics at Würzburg, Basel, Halle and Berlin give a mortality of 25 or 30 per cent. under expectant treatment and 2.8 or even 1.8 per cent. after immediate delivery. Zweifel[2] reports a mortality of 28.5 per cent. under expectant, and 11.25 per cent. under active treatment.

Glockner[3] gives the result of operative interference in 143 cases in the Leipsic clinic, with a maternal mortality of 15.49 per cent. At the Congress of Obstetrics and Gynecology, Paris, 1899, Ferri,[4] of Milan, reported 82 cases of eclampsia treated by artificial dilatation of the cervix, with a maternal mortality of 7 per cent.

According to the Bureau of Statistics of the Census Department, about 2,606,860 babies are born annually in the United States. Making due allowance for the usual proportion of plural births, this would represent 2,592,378 labors. Estimating one case of eclampsia to each 400 labors would give 6,480 cases of eclampsia every year. Under the expectant plan of treatment the mortality is placed at 25 per cent., and under prompt evacuation of the uterus. 10 per cent., a saving of 15 per cent. This means that by radical treatment, instead of the expectant. the lives of 972 mothers will be saved each year in the United States.

1900 Q Street N. W.

ABSTRACT OF DISCUSSION.

Dr. Laura House Branson, Iowa City: For the past four or five years I have been much interested in the study of syncytioma malignum; from that study I have concluded that a great deal of the toxemia of pregnancy is of fetal origin. Believing that, I advocate the view which Dr. Fry has promulgated, namely, that the uterus should be evacuated promptly and that no time should be lost in inducing labor in all cases of toxemia manifested by eclampsia. I advocate the prompt evacuation of the uterus in eclampsia, because of the high rate of mortality, the lives of both mother and child being in the greatest of danger in this disease, for which we possess no adequate means of treatment.

I advocate the evacuation of the uterus in primiparæ—and, in fact, in all patients—in whom convulsions occur before labor; I base this opinion on the summary of statistics at our disposal, among them those recently given by Partridge: in 1,577 cases of labor there were 56 cases of eclampsia, or 1 case of eclampsia in every 28 cases of labor; in 59 per cent. of these, convulsions occurred antepartum. Out of 33 antepartum cases in which labor was induced, convulsions ceased in 30. Sixty per cent. were primiparæ; average age, 27 years; maternal mortality, 30.3 per cent.; fetal mortality, 31.3.

Dr. William Mercer Sprigg, Washington: The result of the treatment outlined by Dr. Fry will give renewed hope to the country practitioner who may not be fortunate enough to have special hospital advantages. Dr. Fry has told us in his study of the cases that we have no means of knowing what the toxemia is or how great the toxic effect is going to be on the mother and child, and that it is important to empty the uterus promptly with the first eclamptic attack. If pregnancy has advanced to the term of viability of the child and there are positive symptoms of threatened eclampsia, I urge that the uterus be emptied promptly unless the symptoms subside within twenty-four hours or show marked improvement. We know that after the seventh month, or at seven and a half months, there is a good chance of saving the life of the fetus. The danger to the mother and child increase with the number of convulsions and by delay both lives are endangered. My own procedure in pre-eclamptic cases, when the mother was near term, and when symptoms did not promptly subside, has been to empty the uterus and I have never regretted doing so; but there have been times when I believe the uterus has been emptied too late and two lives lost in consequence. We must realize that as long as we do not know the poison we are dealing with it is our duty to give the mother and child every chance for their lives by emptying the uterus. Especially is this true in the light of our present lack of positive knowledge either in regard to the liver changes or the kind or amount of toxins circulating in the blood. If we wait for the eclamptic attack we are going to increase our mortality. Many of the patients in our hospital cases are sent in after they have had convulsions—one or two, as a rule more. As an illustration of the importance of not waiting for the convulsive seizure I would mention a patient that came into Columbia Hospital, Washington, D. C., about eight months ago for delivery. She was examined by the interne and a history of her case taken, which was negative. During the night she began to have headache; in the morning the urine was found to contain a small amount of albumin; specific gravity low; urea deficient. The headache continued to increase; there were flashes of light before the eyes, and in twenty-four hours the patient was almost totally blind. In thirty-six hours from the beginning of the symptoms the uterus was readily dilated (manually) under the influence of a small amount of chloroform. At no time was she completely anesthetized. Forceps were readily applied and a dead fetus delivered. The woman partially regained consciousness and died four hours later as a result of profound toxemia without having had a convulsion. This case illustrates the fact that we do not know when or how great these toxic changes are going to be. We must recognize this fact and follow the procedure which will give us the smallest mortality. The question of how this should best be done is of great importance. There are times when manual dilatation can be done with safety. If the symptoms of intoxication are slight and the uterus readily dilatable, you can take the time to dilate manually. If, however, the woman is a primipara and in convulsions, and the manual dilatation is difficult or impossible, and it is important to rapidly empty the uterus, and the child not too large to be delivered safely by the vagina, we have a procedure for this condition which is rapid and safe—that of vaginal Cesarean section. Professor Martin graphically described to you how easily vaginal section can be performed. It is an easy operation except in very fat women, and in such cases the operation is easy but the repair difficult.

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[1] Thera. Monats., April, xxii, No. 4, Berlin.
[2] Williams' Text-Book of Obstetrics, 1908, p. 543.
[3] Peterson's Practice of Obstetrics, 1907, p. 803.
[4] Peterson's Practice of Obstetrics, p. 807.

Dr. H. J. Boldt, New York: We are all agreed that in these cases the uterus should be emptied as rapidly as possible. It is not a question of how many hours we are to wait before we interfere with the conception product, but it is a question of the severity of the eclamptic attacks. If the conditions are favorable there should be delivery by dilatation and version or the application of forceps. If, however, as Dr. Sprigg said, the condition is not favorable for that, we should pursue that course which gives us the quickest delivery, and that is vaginal Cesarean section. In still another class of cases there are seizures subsequent to the delivery of the child. Up to a comparatively short time I have held myself aloof from endeavoring to see what can be done by the decapsulation of the kidneys strongly advocated by our confrère, Dr. Edebohls. The reports from this procedure are coming in more and more from all civilized parts of the world. I believe, therefore, that as conscientious men and as investigators we should not be partisan, but when the necessity seems present make use of procedure which has, in other hands, proved lifesaving.

Dr. R. S. Yarros, Chicago: Until we know the exact cause of eclampsia we can know very little about the medical treatment of it, and it certainly seems that the best results follow from a prompt evacuation of the uterus. Even the infant mortality is greater than when radical treatment is postponed, as is illustrated in public hospital practice, where patients are taken, usually after hours of delay and more or less expectant treatment by some outside physician. In my own private practice I recall a patient who at the end of her fourth pregnancy had symptoms of threatened eclampsia, was treated by the expectant method for three days, when the child was born naturally. About twelve hours after delivery the child had two convulsions and died. The next pregnancy of the same patient was perfectly normal until four hours after the onset of labor pains, when she had a typical eclamptic convulsion. Before I had time to prepare myself for immediate delivery she delivered herself. That child, too, had a slight convulsion, and some albumin was found in the urine, but under proper treatment recovered. Let me in this connection add that we frequently forget that the children born of eclamptic mothers are in a toxic condition and should be treated as such.

Dr. Bernard Cohen, Buffalo: Dr. Fry did not touch on one of the principal things to do with the pregnant woman. If the physician or obstetrician gets a chance to educate the women who come to him early, many of these cases of eclampsia will not occur. The obstetrician usually finds the woman with a convulsion. In the smaller country towns this is just as likely to occur as in the cities. I want to persuade those who live in the small towns, if they are not fully equipped with the instruments needed or familiar with the technic of vaginal Cesarean section, to become acquainted with the original Sänger operation. If the patient's condition in a case of eclampsia is good, advise that the physician dilate with the fingers and empty the uterus after the methods of Harris and Edgar. Let him do it the way he knows he can do it, but let the uterus be emptied. Those who see the pathologic results of eclampsia, the brown, necrotic condition of the liver, know the importance of this. I have seen many a time the postmortem specimens of the kidney in which there was not the slightest lesion. In numerous cases seen by Ewing the liver was broken down with necrotic foci, and in only a few of the cases were the kidneys in a pathologic condition. The poison is immediately sent from the liver to the brain and if you allow a woman to have convulsions for any length of time it leaves some lesion. The child should not be allowed to nurse from an eclamptic mother for at least three weeks.

Dr. J. H. Carstens, Detroit: The point made by Dr. Cohen about having the woman attended to before confinement is good. You can prevent cases of puerperal convulsions by bringing on labor. There are various methods besides operation, and there is no reason why we should not make use of those at the present time. In the hospitals we use manual dilatation. We can use the Bossi dilator and various other methods to evacuate the uterus quickly—the vaginal Cesarean section, so-called, or another Cesarean section. What I plead for is that the general practitioner familiarize himself with the method of doing this operation. He can do it if he will simply go to work at it, and it is our duty to teach the general practitioner how to do it. He can get somebody to help him, and the danger of vaginal Cesarean section is so small and the results so very good that every one ought to be prepared to do it. The patient is going to be dead in an hour or two unless something is done and you have got to save her just then.

Prof. August Martin, Berlin: If eclampsia is a symptom of infection we must be careful not to add to this infectious poison. It is still to be determined what kind of an infection it is. It is generally believed to be a poison developed in the ovum. I do not so regard it, because we know that eclampsia has been observed in cases of very early pregnancy in which there was no fetus, in cases of degeneration of the ovum. Evacuation of the uterus must be done as soon as possible, when the uterus is preparing for the expulsion by stretching the uterus, or if this is not going on then by opening the uterus by vaginal Cesarean section. I believe that in most instances thereby the danger can be avoided. Nothing has been said as to prophylaxis. I think that this important matter should attract the utmost attention of the general practitioner. We frequently hear that the patient has felt all right. She may have had a little headache or felt rather tired and then like a thunderstorm the disease sets in. If you study these cases more intimately you will find that this is not the way the disease develops. In many instances these patients have long suffered from severe headache in front and behind and loss of appetite. They feel rather uncomfortable and very not been uniformly good by any means, probably on account of the well-known shortcomings of these sera, and the fact that the strain of streptococcus causing the complication was different from that used in the production of the serum. In other words, the sera used were not specific.

Much more valuable evidence has recently been brought forward in the use of homologous vaccines, and the study of the opsonic index in relation to the several secondary organisms found in the sputum. Marked improvement has been reported by several authors following, and apparently in consequence of, the administration of bacterial vaccines made from the organisms of the patients' sputum. These results can be explained only on the ground that these bacteria were active invaders, acting injuriously on the host. Improvement was brought about by increasing the opsonins in the blood. As this action is specific we are amply justified in holding that these secondary bacteria took an active part in the evolution of the disease, and the causation of symptoms.

CONCLUSIONS.

While we have much to learn concerning the rôle played by mixed infections in pulmonary tuberculosis, the evidence seems to justify the conclusion that such infections modify the course of the disease injuriously, being the causative factors in some of the great accidents, or aiding in their production, and tending generally to shorten life. In many cases they appear to be the direct and immediate cause of death.

AIR INFECTION OF MINOR IMPORTANCE.*

CHARLES V. CHAPIN, M.D.
Superintendent of Health.
PROVIDENCE, R. I.

BASES FOR THEORY OF AIR CONVEYANCE OF DISEASE.

When it becomes necessary to question long-established beliefs, we are less likely to be disturbed if we first ascertain what were the original grounds for those beliefs. As long as scientific medicine has existed, infectious diseases have been thought to be air-borne. Whenever it was recognized that any disease was infectious, an effort would be made to explain how persons distant from the source of infection could acquire the disease. The most obvious explanation was that the *materies morbi* were wafted by the air. This served to explain fairly well the phenomena of epidemics and of localized outbreaks and the occurrence of single cases of infection. In one common disease the clinical evidence of the important part played by the air was very strong. Malaria has prevailed extensively throughout the civilized world since the dawn of history, and the evidence that the virus of this disease is air-borne is so clear that it amounts to a demonstration, so that it was but natural that what was proved for one infectious disease, and that disease the one with which men were most familiar, should be assumed to be true of all others. In a sense malaria is air-borne: its germs are carried in the bodies of mosquitoes; but it is the insects, rather than the germs, that are carried by the air. Unless the parasites of the other common contagious diseases are carried by similar feeble-winged insects, we can draw no argument as to their mode of transmission from what is known of malaria. It is perhaps here necessary to say that this paper does not deal with such diseases.

The location of the initial lesion in some diseases has helped the theory. The mouth is infected in mumps and diphtheria, the lungs in tuberculosis and pneumonia, and it is easy to believe that germs in the inspired air are their cause. At one time pathologists maintained that examination of the tissues yielded positive evidence that the lungs were usually the site of the primary lesion in pulmonary tuberculosis and that this indicated that the disease was air-borne. Many, however, dissent from this opinion. The subject is a difficult one, but it can hardly be said that the facts of pathology prove that tuberculosis is in most cases an air-borne disease.

I suppose, however, that the chief reason why the theory of aerial transmission has been so generally accepted is that it afforded the best, or perhaps the only, explanation of the facts of infection. When cases of infectious diseases develop at about the same time in a neighborhood, or one after another without any apparent connection, or when isolated cases continue to appear from time to time, scattered over a city, the question arises how are they caused. There is no apparent communication between them. The most natural explanation is that the infection is carried by the air. Another explanation is that infected articles have borne the disease from the sick to the well. These two possible modes of transmission, by the air and by fomites, were about the only ways we had of explaining the vagaries of the distribution of the contagious diseases. If we have another and better explanation we should discard the older theories, or give them a minor place.

It is only within a dozen years that we have begun to realize that pathogenic organisms are by no means confined to those who are sick. Bacteriology has shown us that mild unrecognized cases are much more common than had been supposed, and that persons infected, but showing no symptoms, that is, "carriers," are still more numerous. There are enough of these mild cases and carrier cases to maintain the contagious diseases by direct contact. The demonstration of this can not be undertaken here, but it must be admitted by all who study the problem. Such a source is proved for some cases. Why not assume it for most cases, rather than assume aerial transmission? If one does not recognize the existence of these numerous carriers he will take little interest in this paper, and will cling to what seems the necessary theory of aerial convection. If he does recognize the importance of carriers he will no longer consider the former theory necessary and ought not to hold to it unless actual evidence of its truth can be adduced. Let us see then what evidence there is in favor of the notion that diseases are usually air-borne, and in the first place let us inquire what is the probable mechanism of the transmission of disease germs through the air.

EVIDENCE OF TRANSMISSION.

To those who believed in the aerial transmission of disease, the announcement that bacteria are not readily detached from moist surfaces came as a great surprise. It was a serious blow to all our time-honored ideas to learn that the expired air is free from germs, for no notion was more firmly fixed than that the breath of the patient filled the room and the house with infection. Yet the demonstration was conclusive that bacteria are not spontaneously given off from moist surfaces, but, on the contrary, are easily entangled on such surfaces, so that the microbes of the inspired air are made prisoners on the mucous membrane of the air passages, and the expired air is free from all infection.

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* Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Other modes, however, were soon suggested by which bacteria might get into the atmosphere. Not only are bacteria not detached from moist surfaces, but they are not detached even by powerful air currents from firm dry material, unless the latter is mechanically disturbed. This is particularly true of the secretions and excretions of the body, which when dried present a somewhat firm glazed surface. But it was soon suggested that this dried infective material, be it sputum, saliva or feces, might become pulverized, and that then the light particles, containing living bacteria, would be easily carried by air currents. The question of dust infection then became a vital one. The problem as to whether such dust can and does cause disease may be studied in various ways.

In the first place, it is important to know whether bacteria on drying retain their virulence. Evidence on this point is voluminous, but conflicting and difficult to analyze. Spores, of course, retain their virulence, but it is worthy of note that our most common spore-bearing pathogenic organism, namely, that of anthrax, appears not to be air-borne, that industrial anthrax is rarely of respiratory origin, but that the initial lesion is in a large proportion of cases on the exposed skin and is probably due to contact infection. Of the non-spore-forming bacteria many, such as the pneumococcus, the gonococcus, the meningococcus, and the influenza bacillus, have so little resisting power that dust infection appears to be impossible. Other germs, like those of typhoid fever, tuberculosis and diphtheria, may resist drying, and there is no theoretical reason why they might not at times be air-borne.

The next point for investigation is whether pathogenic bacteria can actually be found in the air. Although this subject is extremely important, the search is a difficult one, and not a great deal of reliable work has been done. There is little doubt that the pus organisms are the most ubiquitous of all disease germs, and they have been found in the air in many situations, including the streets, hospital wards and operating rooms. Virulent tubercle bacilli also have been found in the air, though, as might have been expected, many negative examinations have been reported.

Much more numerous are the experiments which have been made to discover disease germs in dust, particularly tubercle bacilli. The work of Cornet, Coates and others has amply demonstrated that in the vicinity of tuberculous patients, especially if careless, infected dust may be found.

The bacteriologic evidence is that no germs have been found in the air except those of suppuration and tuberculosis, and careful experimental investigation of the subject indicates that few disease germs are capable of being carried as dust and remaining virulent.

The doubt cast on the theory of dust infection led to further studies. Flügge showed that in coughing, loud talking and even in ordinary speech, minute droplets of saliva are given off which are infective. Animal experiment has, however, shown that they are not effective at a distance of more than two or three feet.

We ought now to ask what experimental evidence we have that either air-borne dust or droplets are actually infective under ordinary natural conditions. It must be confessed that the evidence is rather scanty. A number of crude experiments are on record in which large quantities of dried and pulverized material containing the germs of tuberculosis, plague, Malta fever, and anthrax have been forcibly blown into the nostrils of test animals with fatal results. Cornet confined forty-eight guinea-pigs in a compartment in which dust containing tubercle bacilli was vigorously stirred up, and nearly every one of the animals developed the disease. The conditions, however, were far from natural. Flügge had no difficulty in infecting guinea-pigs by keeping them in front of a patient distant from 20 to 45 cm. for a short time, and allowing the patient to cough at them. Even under ordinary conditions of speaking such infection takes place. The U. S. Department of Agriculture has investigated the mode of tuberculosis infection in animals. In one experiment two healthy cows were kept in stalls between tuberculous animals, and both became infected without actual contact; ninety-eight guinea-pigs were kept in cages in the stalls, and some under the mangers of tuberculous cattle, for about six months, and only one of the pigs (kept under the manger) became infected. In a later experiment, of thirty-five guinea-pigs exposed in cages on the walls of stalls where tuberculous cattle were confined, only two became infected after an average exposure of 135 days. Of forty-two guinea-pigs exposed under the mangers, so that some of the feed sifted into the cages, six were infected. In the last experiment the disease is more likely to have been caused by contact infection than by air infection, but in the other cases the disease may have been air-borne, but unless scrupulous care was used by the attendants during the six months, it was likely due to contact infection.

The British Plague Commission reports some interesting experiments with that disease. Susceptible guinea-pigs and monkeys were confined in cages placed in infected huts, and also near infected animals, but they did not in any instance acquire the disease so long as precautions were taken to exclude fleas. These experiments were well conducted and indicate that plague is not an air-borne disease in the ordinary meaning of the term.

Except for the above diseases very few experiments have been made on aerial transmission.

We must next inquire what clinical evidence we have that the air is a factor in the transmission of infectious disease. It was formerly believed that not only was the air of the sick-room infected, but the disease poison was carried out of the house and long distances in the open air. This view has been gradually abandoned for one disease after another, until at present smallpox alone is believed to spread in this manner, and many epidemiologists deny even this.

When influenza reappeared in 1889, extending over the entire globe in a few months, there were many who contended that this phenomenon could be explained only on the theory of its aerial transmission, and even maintained that it was thus borne across the Atlantic; but the researches of Parsons in England and Schmid in Switzerland showed conclusively how necessary personal intercourse was to the development of the disease.

It is for the aerial convection of smallpox, however, that we find the greatest weight of authority. Investigations made by Dr. Power for the local government board in England in 1881, concerning the Fulham Hospital, convinced the authorities that smallpox hospitals are a serious menace to their neighborhood, and they advised that such hospitals should, if possible, be located a mile or more from inhabited houses. Many local health officers agree with these conclusions, but many do not. The subject is too intricate to discuss here, but the believers in aerial convection base the theory almost exclusively on the alleged fact that smallpox in a great number of instances prevails in excessive amount around the hospitals, and with a progressively decreasing intensity as distance from the hospital increases. Such facts, they say, can be explained only on the theory of aerial convection. That such a distribution of cases commonly occurs is denied by many, and when it does occur it has sometimes, as in recent outbreaks in England, been shown to be due to contact infection.

If smallpox virus is powerful enough to infect at the distance of a mile, it ought certainly to infect every susceptible person in the same room or within a hundred feet, and this is notoriously not the case. The belief that smallpox is air-borne to any distance is contrary to the facts, at least as observed in this country.

It has also been alleged that typhoid outbreaks are sometimes due to air-borne infection. But in all the recorded instances which I have examined there is not the slightest evidence that the disease originated in the manner alleged.

Assertions are made even now by some that other diseases are carried by the external air. In Paris the question has been raised of the possibility of scarlet fever spreading from the hospitals, but Tarnarier has shown by a statistical study that there is no evidence of it. In American cities also assertions are sometimes made that scarlet fever and diphtheria are carried by the air from hospital wards to adjoining wards or neighboring houses. In no instance in which such transfer has been alleged has transfer by carriers been excluded. Moreover, many contagious hospitals have been maintained for years with no increase in these diseases in the vicinity, as, for instance, at Boston and Providence. At the Kingston Avenue Hospital in Brooklyn various diseases, as smallpox, measles, scarlet fever and diphtheria, are treated in wards only a few feet apart, with no evidence of aerial transference. At North Brother Island the tuberculosis ward is only about twenty-five feet from the diphtheria ward, but Dr. Knopf tells me that his tuberculous patients do not contract diphtheria.

While the majority of the medical profession do not believe that diseases are carried by the outer air, they do believe that most patients with tuberculosis, smallpox, diphtheria, scarlet fever, measles and whooping cough contract the disease by breathing the germs.

It is commonly believed that the germs of disease readily pass from one room to another in a dwelling and a carbolized sheet before the door is often hung up by physicians and health officers to prevent the extension of the disease. But the facts are that even with entire disregard of the ordinary rules of cleanliness in the sick-room, the disease rarely extends beyond the apartments occupied by the patient. Careful records kept in Providence for many years show that, in both scarlet fever and diphtheria, the disease is confined to the tenement in which it first appears in about 93 per cent. of the houses, and in nearly all of the instances in which it does attack more than one family in the house, there is known to have been direct communication between the families. If there is no visiting between the families the disease never spreads. This demonstrates not only that scarlet fever and diphtheria are not air-borne, but also that, although members of the infected family may use hallways, stairs, cellars and water-closets in common with other tenants, the danger of infecting the latter may be safely ignored.

It very frequently happens that persons infected with scarlet fever, diphtheria or smallpox remain for days in schools, asylums, or lodging houses, and yet infect few or none. Such a phenomenon seems to be more easily explained if infection takes place chiefly by contact, rather than through the air, and certainly indicates that aerial infection is not so swift and sure as is usually supposed.

Visitors to wards occupied by scarlet fever and diphtheria patients rarely contract these diseases. Welsh and Schaumberg state that of 700 medical students who visited the scarlet-fever wards of the Philadelphia Hospital, not one contracted the disease, although fully one-half the number had never had it. In a personal letter Dr. Schaumberg states that about the same number visited the diphtheria wards with a like negative result. The stay in the wards was from twenty minutes to an hour and the visitors were not supposed to touch anything without washing the hands.

The best experiment on the mode of infection seems to have been made recently in some of the French hospitals, particularly the Pasteur Hospital in Paris. In this hospital each patient is cared for in a separate room opening into a common hall. Different diseases may be in adjoining rooms. The doors are, of course, frequently opened and are often left open. The same nurse may care for patients with several diseases. The nurses are trained to take the same care in going from one case to another that they would in going to a surgical operation. In fact, strict medical asepsis is the watchword of the institution. To treat smallpox in a room opening into a corridor connecting with the rooms of scarlet fever and diphtheria patients, would by most persons be considered the height of folly, but at this hospital during the two and one-half years after it was opened in 1900, there were received 2,000 persons, of whom 524 had smallpox, 443 diphtheria, 126 measles, 163 erysipelas, 92 scarlet fever and 166 non-diphtheritic sore throats. The only evidence of the transfer of infection was the development of four cases of smallpox and two of erysipelas.

At the childrens' hospital in Paris (*Hôpital des Enfants Malades*) instead of being in separate rooms, the beds are separated by partitions. The same asepsis is prescribed as at the Pasteur Hospital, but does not appear to be as carefully carried out. There are treated in these wards all kinds of contagious diseases, including typhoid fever and pneumonia. Of 5,017 cases there were only 7 cross-infections, 6 of measles and 1 of diphtheria. Dr. Moizard thinks that this experience proves that even measles is not air-borne. The cases of this disease which did arise were not in cubicles adjoining those occupied by measles patients.

Dr. Grancher, in another Paris hospital, had two wards in which there were no partitions, but only wire screens around the beds, simply as a reminder for the nurses. He also attempted medical asepsis, but as the period covered was from 1890 to 1900, the details were doubtless not so well understood or applied. Doubtless, too, the permanent partitions have a moral effect on the minds of the attendants. Of 6,541 patients treated during this period 115 contracted measles, 7 scarlet fever and 1 diphtheria. This is a much larger rate of infection than that shown for the other hospitals, but not as great as in many hospitals with separate wards for each disease. Grancher insists that measles is probably not an air-borne disease. Adjacent patients do not necessarily infect one another. At various English hospitals similar methods have been tried with success. These various hospital experiences indicate that the danger of the aerial convection of disease is much less than is generally supposed.

The history of surgical practice is interesting in this connection. Lister at first believed the air to be the principal source of infection. Gradually surgeons came to consider the organisms of suppuration on their hands, instruments and dressings, and on the skin of the patient as the principal source of infection, and I think that I am not wrong in saying that at the present time surgeons have little fear of aerial infection. Ochsner says that it is a negligible factor. Yet the pus-forming organisms are probably more numerous in the air than any other pathogenic bacteria.

CONCLUSIONS.

After the foregoing survey of the subject we are, I think, justified in the following conclusions:

1. The theory of the aerial transmission of disease was developed as the most reasonable way of explaining the phenomena of infection.
2. Contact infection with carriers and missed cases affords a better explanation of the phenomena.
3. The best medical thought has been steadily restricting the supposed sphere of aerial transmission.
4. Only a few authorities now assert that disease is carried by the atmosphere outside of dwellings, and this assertion is made only with regard to smallpox.
5. Bacteriology teaches that former ideas in regard to the manner in which diseases may be air-borne are entirely erroneous; that most diseases are not likely to be dust-borne, and they are spray-borne only for two or three feet, a phenomenon which after all resembles contact infection more than it does aerial infection as ordinarily understood. Tuberculosis is more likely to be air-borne than is any other common disease.
6. Animal experimentation indicates that tuberculosis may be air-borne, and that plague and some other diseases are not.
7. Pathology has not determined, as is sometimes alleged, that even pulmonary consumption is an air-borne disease.
8. There is no good clinical evidence that the common diseases are air-borne.
9. There is considerable clinical evidence that scarlet fever, diphtheria, smallpox, measles, whooping cough, typhoid fever and plague are not easily transmissible through the air.

If these conclusions are correct, are we not justified in abandoning the theory of aerial transmission as a working hypothesis, and should we not devote ourselves to preventing every form of contact infection? To use the phrase of the French physicians, we should, in our treatment of contagious diseases, practice strict medical asepsis. This I have learned by experience we can never teach people to do so long as they continue to believe that air is the chief vehicle of infection. That there is little danger in neglecting the aerial factor is indicated by hospital experiences of Paris and other cities.

UNIFORMITY OF VITAL STATISTICS.*

J. N. HURTY, M.D.

INDIANAPOLIS.

A large percentage of the people who call at the statistical department of the Indiana State Board of Health ask: "Of what practical use are vital statistics?" This question proceeds as frequently from doctors as from the laity. It is from doctors also that we continually receive letters protesting against the inconvenience of making reports of the deaths and births they attend. Frequently, to tell such persons that the collection of accurate vital statistics and their intelligent analysis constitute one of the most important functions of governments is to talk into the air. The results are sometimes discouraging when the subject is continued and it is made plain how vital statistics give a valuable measure of the advance in medicine and of the results of the practical application of hygiene. Without vital statistics, practical hygiene is a good ship at sea lacking a compass, and it is true that it is far more important for a state to know who are dead, where they died, and what caused death, than to know the number of hogs, bushels of corn and acreage of oats. Still, these truths, obvious as they are, remain invisible to many.

MEDICAL PROFESSION RESPONSIBLE.

On the medical profession devolves the responsibility of giving to the world accurate mortality, morbidity and birth statistics. This is really an opportunity which conditions bring to the medical profession, for such records are of great importance to medical science; and where is the true disciple of medicine who will not gladly contribute to the science he has made his life study? Again, it is clear that a physician's duties to his patients and their families are not all performed until the records which are so important to them and which the physician only can make are duly returned. Birth and death records, therefore, are far from being solely for the benefit of the state. Indeed, their value to the state is not primary. To summarize them we may say: Birth, mortality and morbidity records are of very great importance to medical science, to the family and to the state. Medical colleges should provide a special course of instruction concerning the collecting, classifying, tabulating and analyzing of vital statistics. Medical students should be taught the importance of recorded life data: 1, to the individual; 2, to the profession of medicine; 3, to the general public; 4, to sociologic problems; 5, to public hygiene.

In connection with their duties in regard to reporting deaths, medical students should be especially and thoroughly instructed in precision in statement of causes of death, necessity for complete returns and the relation of sex, age, color, race, conjugal condition, parents, nativity and occupation. Examining medical boards should examine applicants to practice medicine in the general subject of vital statistics.

UNIFORM REGISTRATION METHODS.

It is plain that, unless the vital statistics of different states are compared with each other, not a little of their value will be lost. To this end, and also to the end that gain all along the line should be secured, uniform registration methods for vital statistics should exist. But, how may they be secured? The United States Bureau of the Census three decades ago urged that the states should have registration laws furnishing correct and comparable vital statistics, yet, at this date, only *twelve* states have such laws. The bureau has issued and distributed ten or more circulars relating to registration, and one, entitled "Legislative Requirements for Registration of Vital Statistics," gives clearly the essential principles which should be incorporated in all laws to make them effective in the work.

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* Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

The first and absolutely necessary requirement in a mortality registration law is a burial permit issued by a sworn registrar, the said permit to be based on a standard certificate of death, intelligently and as completely filled out as possible. And here lies the greatest difficulty, for in Indiana, after eight years of daily prodding from the office of the State Board of Health, at an expense for a special clerk and for untold postage stamps, the number of indefinite terms used has not decreased. There seems to be a decided reluctance on the part of some physicians to be accurate and definite in their statements of causes of death. He who invented such terms as marasmus, kidney complaint, liver trouble, nervous shock, etc., did not have in mind accuracy, definiteness and other needs of mortality statistics. And what about the returns from those practitioners, not few in number, who certify scarlet fever, diphtheria and cancer deaths as being caused by "malignant diseases"? What of those who call diphtheria "ulcerative tonsillitis," and who return for intestinal tuberculosis the term "chronic diarrhea"?

The difficulties to be overcome in securing the reporting of all deaths is not so great as that of banishing incorrect and indefinite terms. A registration law which does not require deaths to be recorded immediately after their occurrence with definite causes of death stated in acceptable terms and which does not deny legal burial until the same is done, is entirely worthless. The further the time and place of record are removed from the time and place of the occurrence, the greater is the probability of non-registration and the greater the possibility of error in giving the statistical and medical facts. Appreciating these truths, the Indiana law commands immediate report of death on an official certificate, and before legal burial can be made a burial permit based on said certificate must be issued. In this it is not different from other efficient registration laws, but in the penalty for burial without a permit it is very different. Besides a fine of from ten to one hundred dollars for illegal burial, which penalty it is impossible to have imposed in certain pathetic instances, the Indiana law commands the coroner under penalty for failure, and with a reward for compliance, to disinter the body, hold an inquest and make a return of his findings on regulation death certificates, and to further the using of definite terms of causes of death, the back of the certificate contains a list of three dozen terms which can not be accepted. Then the careless or ignorant physician has always at hand information which will guide him aright.

The first necessity of immediate report on official blanks and a burial permit being met, then follows the necessity of an immediate local recording and the transmission, at least monthly, of the original certificate or transcript to a central authority, where, under a trained statistician, classification, tabulation and analysis can be done. To secure this, the law should command it be done under penalty, and the central board given power to pass rules and regulations, the violation of which would result in the discharge of the offender with a fine.

A UNIFORM CERTIFICATE OF DEATH.

The adoption of the same form of death certificates, or at least essentially the same form, by all registration authorities is necessary. So likewise is the adoption of the same method of classification. Fortunately, both forms have been ably supplied, the certificate form by the United States Census Bureau and the classification system by the International Congress of Hygiene and Demography.

Experience has shown, however, that the certificates can be improved, and so the Indiana State Board of Health has made a few changes in the United States form. The United States certificate, under "personal and statistical particulars," calls for the birthplace of the deceased, but simply has the word "birthplace," followed by a blank; and, although it is plain that the birthplace of the deceased is wanted, still constant inquiries were received asking as to this point. The same situation appeared as to occupation. So the Indiana certificate now has "birthplace of deceased" and "occupation of deceased" printed on it. It also has printed on the back a list of the most common indefinite terms used in stating causes of deaths, thus presenting suggestions to those filling the blanks.

EFFICIENT LOCAL REGISTRARS NECESSARY.

A good law, even though constructed on the given principles, will not enforce itself; and, therefore, efficient local registrars are a necessity. These should exist in every city, town, county and township. In Indiana, registrars are to be found wherever a coffin can be purchased. They should be intelligent and thoroughly informed in regard to their duties, and impressed with the great importance and usefulness of vital statistics. They should know and feel that the seemingly trivial act of collecting, recording and transmitting of death certificates is a matter of importance to medical science and to the state, and possibly of great importance in the future to the family of the decedent. For the state to fail to pay registrars properly is to encourage inefficiency; and this is all too frequently done. It seems that the best basis of payment would be a sufficient fee for each certificate handled. Of course, the responsibility for obtaining and filing the original certificate of death with the registrar should be fixed in the law. But on whom? He who buries the body must be the holder of the burial permit, just as he who pays out money should hold the receipt. The undertaker is, therefore, the one who should be required to deliver the certificate of death, and said certificate should be readily supplied by the attending physician, if any, otherwise by the local health officer or coroner. In case there is no undertaker, and the family with the help of the neighbors conduct the burial, then the head of the family or the chief actor in the case must hold the burial permit; and he must bear the certificate to the registrar. With all of this system duly and legally provided, the people must be informed and registrars must be diligent and conscientious in the discharge of their duties and must have the cooperation of the medical fraternity and the people. The securing of this cooperation will, of course, depend on the statistical department; and that persistent, unceasing labor and enthusiasm and much tact will be required to accomplish this end is very plainly apparent.

BIRTHS.

The securing of records of all births is obviously more difficult than the securing of records of all deaths, and in neither instance can absolute accuracy be secured. The Laporte Gunness horror reminds us that concealed deaths are continually occurring, only not in groups, and when not discovered are lost. So, also, births are continually occurring in remote places, which, on account of ignorance and stupidity, are not reported, and even in cities this occurs with the additional fact that many are purposely concealed. Therefore, we are concerned only with such records as can be secured by the exercise of diligence.

Births should be immediately reported. The courts would probably interpret "immediately," as meaning within twenty-four hours. It is unnecessary to give longer time. To do so in many instances brings inaccuracy, and in not a few, failure to report at all. The ten-day period allowed in the bill of the Committee on Uniform Vital Statistics should, in my judgment, be changed to one day.

The experience of the Indiana State Board of Health shows it to be desirable to have the postoffice address of the mother, and this item has been added to the blank. It is the mother to whom we must usually appeal for the name of the child. She has the deepest interest, and she will almost always answer a letter asking for the name. If the birth is in the country in Indiana, the postoffice address would not be given on the blank of the United States Census Bureau; only the township would be given, and there might be two, three or more postoffices in that township. We have also found it necessary to add county, township and village or city as well as postoffice address to the supplemental blank. These do not occur on the United States blank.

Another addition, which is made for purely sanitary and not statistical reasons has been made to the Indiana birth blank. It is: "Were precautions taken against ophthalmia neonatorum?" We believe that this question has produced good results, for letters have been received asking what precautions the State Board of Health recommends, and one county medical society has taken up the matter and appointed a member to write on the subject. The presence of such a question on a birth certificate could be properly criticized from the statistical point of view, but if it advances preventive medicine and does good it seems to be justified.

In writing to the mother for the given name we use the following form of letter, with which is enclosed the supplemental blank, all filled out, except the name, and also a stamped return envelope.

> *Dear Madam*:—We have received in this office for legal record, the birth certificate of your baby. Please fill out the enclosed blank where child's name is called for and return to us in the stamped and addressed envelope, and please correct any errors, either in dates or spelling of the names.
>
> This legal record of the birth and name of your child is of great importance to you, to your child, and to the state. Some day it may be required in court to prove your child's parentage, or to prove inheritance of property, or to prove right to insurance or pension, or to prove legitimacy. Every mother should demand that her child's birth be legally recorded as the law commands, and also demand that the physician or midwife carefully look after the matter, for their duties are not fulfilled and they should not be paid for their services until they make the report required by law. Women will do wisely to discuss with each other the importance to themselves and to their children of legal records of births and deaths.
>
> If at any time the State Board of Health can help you, please write to us.

We are glad to be able to say that only occasionally do we fail to hear from this letter. We find also that the letter has the missionary effect intended, for we have heard of many instances in which country women have talked about the necessity of recording deaths and births, and several women's societies have formally discussed the subject. The sending of this letter also presents the opportunity of sending, without additional cost, a leaflet concerning the care of babies.

ABSTRACT OF DISCUSSION.

Dr. Cressy L. Wilbur, Washington, D. C.: Dr. Hurty, I think, referred to the twelve registration states. We are doing a little better than that. There are fifteen registration states at present, not counting the District of Columbia (city of Washington), which formerly was included in the list of registration states. There has been a break in the continuity of registration from the east to the west, but Ohio has bridged that gap, and under a law signed by Governor Harris on May 4, Ohio will undoubtedly soon become a registration state. I have good news also to report from the northwest. Wisconsin, Minnesota, North Dakota, Montana, Washington, Nebraska and Utah all have laws in operation requiring burial permits, and it only requires full enforcement of these laws to secure the addition of these states to the registration area. I am sorry to say that at the present time—and there are a great many people living in this great city of Chicago who would hardly credit the statement—Illinois is a non-registration state. Illinois, as a state, does not have an adequate system of vital statistics. I am glad that the state sanitary authorities and the city health departments are interested, wide-awake and willing to cooperate in this matter, and I believe that we shall have a good registration law at the next session of the legislature. At Washington we receive returns from all registration states and cities, and there is no city in the Union which sends better reports or where the causes of death are more carefully investigated than in Chicago. The work now being done in this city should be of great aid in securing the enactment of a law for the entire state.

Dr. J. A. Egan, Springfield, Ill.: Illinois, not being a registration state, does not have a registration of vital statistics, but has a system of mortuary statistics—not as complete as it might be, but still not bad. Illinois does not require the death to be reported except in certain cities where the reports are made to the proper health official. Throughout the state, outside of these cities, reports are made to the State Board of Health, and a fee of 25 cents is paid for every death reported. I believe that in Illinois we get reports of 90 per cent. of the deaths.

Dr. W. H. Sanders, Montgomery: In Alabama, while we have had laws providing for the registration of births and deaths for many years, for reasons that it is not necessary to enter into now, those laws have not been enforced in all parts of the state. At the last meeting of our legislature more rigid laws governing this matter were enacted than heretofore had existed. We are now making a vigorous effort to call out the vital and mortuary statistics for Alabama, and we hope that our efforts will bear fruit. In Alabama and the other southern states we labor under one difficulty which does not confront the states and people of the north, viz., our large negro population. In some counties in Alabama there are five, six, seven and eight times as many negroes as white people. You will understand the difficulties that surround the collection of vital and mortuary statistics where the population consists so largely of negroes. It is impracticable in a section of the country like that to provide a law that will absolutely require a burial certificate. The undertakers are not scattered all through the county. We are trying to overcome the difficulties, however, and believe that we shall be able to do so. Of course, in those parts of the state in which the negroes are so largely in the majority the midwives do all or a great deal of the obstetric work. In getting up our recent form of death certificate we have added one item or heading to our form of certificate which I have never seen in any other form: "Did the deceased undergo a surgical operation, and if so, when and of what nature?" We have often received certificates of death in which peritonitis, septicemia, or shock would be assigned as the cause, when it was obvious that there must have been something back of these causes and when possibly the real condition back of them was an operation which had been performed only two or three days before.

Dr. C. L. Minor, Asheville, N. C.: I am satisfied that under present conditions, in the rural portions of the black belt of the south, the registration of vital statistics is impossible. The south is almost a purely agricultural region, where the farmers live scattered over a large area, often far from the nearest town, doctor or undertaker. Under these conditions, how can we hope for reliable vital statistics? Look at the conditions in Germany, where vital statistics are the most accurate and satisfactory in the world. Small villages are scattered everywhere, at short distances, and there is a paternal system of government which can force every physician and every citizen to obey its orders. While I do not wish to be a pessimist, it seems to me that in the south, despite the most faithful and earnest efforts of our doctors, we can not hope for satisfactory results in this direction until the country is more thickly settled. In North Carolina, where I live, there is satisfactory registration in the towns, but not in the country, and we can not expect an overworked and busy country practitioner, going night and day, and very often far from the court-house, to make full reports of his work—not to speak of those large areas where there are no doctors at all.

Dr. George W. Webster, Chicago: Difficulties in securing and enforcing legislation of this character are not confined to the negro population of the south or to the ignorant people. In Illinois, for example, the state board had introduced and passed, four years ago, a rather satisfactory vital statistics bill. This was in operation about two years, then Mr. Miller, the ex-speaker of the House of Representatives, asked for its repeal on the ground that it was too much trouble for his constituents to obtain legal permission to bury their dead. Illinois would have had no bill at all had it not been for the fact that we accepted the present law as a compromise, thinking that it would be better to hold on to that and use it as a lever in securing some such law as is now recommended by the American Medical Association. Until the House of Delegates and the medical profession rise up and help us in educating the people and the legislature to the fact that vital statistics are absolutely necessary as a foundation for public health work, we must be content with the present law.

Dr. H. M. Bracken, Minneapolis: The question on the birth blank relative to prophylaxis against ophthalmia neonatorum is of great importance. A movement looking to the prevention of this disease was taken up in the Section on Ophthalmology two years ago.

Dr. S. S. Crockett, Nashville, Tenn.: In furnishing results of mortuary and vital statistics, however much we appreciate the importance of it, we shall never accomplish anything either in the south or anywhere else until the people themselves appreciate the importance of it. They have to be taught the desirability, the importance and the value of it. In Tennessee we had an amusing defeat of a vital statistics bill four years ago. We had drafted a great improvement over our present law, and when it came to the question of undertakers' certificates for every burial it was charged that the undertakers were behind the scheme, and that they were the men that were pushing it; that it was really an undertaker's bill. It was shown that in about twenty counties in the state there was not an undertaker; that the people did their own undertaking, and we shall have to develop undertakers in Tennessee before we can accomplish results.

Dr. J. H. White, New Orleans: Would it be possible to obtain from the United States government the franking privilege for the purpose outlined by Dr. Hurty? While it may seem a small matter, it is a huge task to pay postage on all the work of the health office, and the franking privilege would be of inestimable value to the health officers of the United States. It would enable them to gather material from everywhere, and place the returns in the hands of every doctor in the United States, so that he would know what was going on in reference to vital statistics in Illinois, or in any other state of the union. I believe that vital statistics could be collected in the south to some extent by making laws and enforcing them as well as may be, but not tabulating all the statistics. We could take such areas as it is absolutely impossible to get those statistics from, and leave them out of consideration in the tabulation, just as the census bureau does in tabulating the cotton returns, or any other returns of the products of the southern states, saying that such districts have not yet reported. In this way we would get what was available. In certain sections of the south it is impossible to get vital statistics because the inhabitants are miles away from civilization. They have no midwives, and no doctors.

Dr. H. B. Hemenway, Evanston, Ill.: On what basis does Dr. Wilbur select certain towns in non-registration states, for record in the vital statistics? For instance, Evanston has its own local law, efficiently enforced, which compels the registration of death before the body may be removed from the place in which the death occurs, and yet I find that Evanston is not mentioned in the tabulated statement. Physicians are accustomed to issue death certificates without seeing the body. There is no identification of the body, and once in a while it becomes a matter of legal importance to identify a certain body. Life insurance companies always call for a certificate of death, and really, the record is of little value in many cases simply because the physician has not seen and identified the body. The certificate ought to state that the physician was in attendance before death, and that he has seen the body.

Dr. C. L. Minor, Asheville, N. C.: What does the poor mountaineer do when, often far from any physician and more often from an undertaker, his dear wife dies? He makes his own rude coffin, places his dear dead in it, wrapped in a sheet, digs a grave with his own hands, and places her there to wait for the great hereafter. These deaths, reports of which never reach our registrars, are what interfere with the accuracy of vital statistics in the country, and makes them reliable only in cities, towns, villages or thickly settled districts. Look at the records of births. Doubtless as soon as the negro woman, as she is already doing in the cities, approximates to the ways and constitution of the white woman, she will need a doctor's presence, but the average corn-field negro woman has her baby without any assistance whatever. I know of the case of a negro girl who, coming back from church with a party, left them to go into the bushes, had her baby, picked it up and rejoined the crowd before they got home.

Dr. Cressy L. Wilbur, Washington, D. C.: In reply to the question as to the basis on which cities were admitted to the registration area, the comparison was made at the time of the last decennial census in 1900. The returns were collected from the registration authorities of the cities and an independent enumeration of deaths was also made by the census enumerators. The total number of deaths, from both sources, being established as a basis, those cities in which the registration amounted to 90 per cent. of this total were accepted as registration cities, and those falling below that standard were omitted. In a general way, however, the registration of deaths in Illinois, outside of Chicago, in those cities having permits, is not as good as that of the majority of cities in non-registration states, because in many instances when deaths have occurred in cities and when the bodies are taken out of the cities and not buried in the municipal cemeteries, permits are not issued. We do not consider the returns fully reliable. I do not wish to refer to the character of the work done by the State Board of Health in a critical way. I know that Dr. Egan has done very creditable work with a very imperfect tool, and I am sure that when he becomes better equipped he will be surprised to find that he is getting an increased number of returns, and that he can place greater dependence on them as full and reliable. I do not think that they are so now.

Dr. T. D. Tuttle, Billings, Montana: We have a registration law in Montana, and we have Hungarians and Finns and everything else, and occasionally an American. We are getting fair results there, but I believe that any of you can kill a registration law as soon as it is passed by your legislature if you do not handle it with a little judgment. Last winter, when the snow was about fifteen feet deep in our gulches a child died. It would have taken the father twenty days to reach town. If I had filed a complaint against that man for not having a burial permit I believe that the thing would have been made so public that our law would have been killed the next winter. You can not get a death certificate sometimes in twenty days. The farmer whose wife dies, and who has no money to bury her, makes a box, and buries her himself. If he comes in as soon as it is practicable to get to town that is satisfactory. If the death certificate is filed honestly, and as quickly as it can be done, I do not believe you can successfully prosecute that man. I doubt if there is a doctor in Montana who does not promptly file his birth certificates. The majority give the name. Dr. Hurty suggests that the name should be given in one day, but we could not get the name in that time in any event. I think that ten days is better. We have some people who are worse than the negro. Men who can not read, and who do not go to the post-office once in ten days are common with us. Letters do some good in our state, but the foreigners do not read them. Yet we are getting pretty good returns by pounding at them, and not prosecuting them.

Dr. J. N. Hurty, Indianapolis: These letters to mothers are doing good work. We invite them to write to us. That puts a considerable burden on the state board, and I have felt it, as the secretary, but they bring us directly in contact with the people, and they understand it. Numerous mothers' societies and teachers' conventions have taken up the subject, and so, as this education is going on, they are finding out that it is of the utmost importance to them to have these records made. We had applications for almost six hundred transcripts of births and deaths last year, and we made a missionary of every one of those applicants in the cause of correct vital statistics. I think that this has done much good in Indiana, and we do not despair of getting accurate death records from away out in this country, where people bury their own dead. You know the feeling where there is a death in the family. In one of my excursions I found parents burying their child, dead of diphtheria, in a home-constructed coffin. They were poverty-stricken people, but they were ready to listen to us, and they desired greatly that the death of that child should be recorded. They only needed to know about it. I believe that our southern brethren can secure good statistics from the negroes by introducing into their laws the clause in the Indiana law, which provides that in the event of burial without permit the coroner shall disinter the body and hold an inquest and secure the data. What a commotion disinterment makes in a community! It was only last week that we had a disinterment, although our law has been in force many years. The physician said that he was too busy to make out a certificate. He didn't "believe in health laws nohow," for he said so. He said to the undertaker that he would stand between him and the law. It cost that physician $80. He found plenty of time to attend the trial. He was not too busy to attend the inquest, and the educational value to the community was very great. That physician will be very much less busy the next time he has a case of this kind. At first, the people were angry. Many said that it was an outrage, but when they found that a law-breaking physician caused all that trouble they took a different view.

An Error Sometimes Made in Examination of Sputum for Tubercle Bacilli.—W. H. Buhlig, Chicago (*Quar. Bull. Northwestern Univ. Med. Sch.*), points out that in the attempt to hurry a preparation of sputum for microscopic examination, the smear is often heated before it is quite dry, producing in this way artefacts that are sometimes with difficulty differentiated from tubercle bacillus.

A NEW METHOD FOR THE QUANTITATIVE ESTIMATION OF ALBUMIN IN URINE.[*]

EDWARD H. GOODMAN, M.D.
Physician to the Dispensary of the Phipps Institute for the Study, Treatment and Prevention of Tuberculosis; Dispensary Physician to the Presbyterian Hospital; Assistant Instructor in Medicine, University of Pennsylvania.

AND

SUZANNE STERN.
PHILADELPHIA.

In the book on urinary analysis by Neubauer and Vogel sixteen closely printed pages are devoted to the question of the quantitative determination of albumin in urine. Of the many methods described but two are in general use, the gravimetric and the Esbach methods. The former is complicated and tedious but accurate, while the latter method, reported by Esbach in 1874, aims to present a relatively easy and accurate procedure. Many factors must be taken into consideration in using this method: The specific gravity must be between 1006 and 1008; there must be less than four grams of albumin in a liter of urine; the specimen must be acid, and, as pointed out by Schulz and later by Christensen (quoted by Neubauer and Vogel), the temperature plays an important rôle. Neubauer and Vogel,[1] after a careful review of the literature pertaining to the Esbach method, state that even for a moderately satisfactory estimation of the quantity of albumin it is absolutely unreliable, and that an estimation of the albumin by the quantity thrown down on boiling is almost as exact. When, however, all precautions are taken as to temperature, specific gravity, etc., one can determine whether the amount of albumin has increased or decreased.

The Esbach method has for a generation been firmly established in every laboratory, and where tradition and common usage have rendered a custom almost a law, it should be with a great deal of trepidation that one attempts the task of annihilation and substitution. This is, however, the object of our paper, and we believe we are now in a position to speak with authority and definiteness concerning the method advanced by us in a preliminary report published in The Journal, July 4, 1908.

For some time past work has been carried on in the laboratory in an endeavor to devise some simple, rapid and exact method for estimating the quantity of albumin in a given specimen of urine. A brief report of our failures may prevent others from attempting work along similar lines. The first thought which naturally arose was to measure the ring of albumin obtained by Heller's test, after standing a certain length of time, and after many wearying attempts this had to be abandoned as impracticable.

We then tried the various color tests, the Biuret, the Millon, the xanthoprotein and the Adamkiewicz, endeavoring to establish a color scale with which a specimen of urine might be compared as is done with the Tallquist scale for hemoglobin estimations. Of these tests the Adamkiewicz alone promised success, but the gradations of color were so slight that this method was ultimately discarded. The other tests were worthless as quantitative methods.

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[*] Final Report from the Private Laboratory of Dr. John H. Musser. Read in the Section on Medicine, Medical Society of the State of Pennsylvania, Cambridge Springs, Sept. 14-17, 1908.

[1] Neubauer and Vogel: Analyse des Harns, ed. 3, 1898, p. 865.

About this time there appeared a paper by Tsuchiya[2] offering a *modification* of the Esbach solution in the form of a solution of phosphotungstic acid in 96 per cent. alcohol and hydrochloric acid, which, he states, gives results more nearly approaching those obtained by weighing than does the original Esbach solution. He gives many tables which substantiate this claim and summarizes his conclusions as follows:

1. With normal urine there is no precipitate, as is sometimes the case with the Esbach reagent.
2. The precipitate from albuminous urine settles more regularly than with the Esbach solution. Foaming or floating of the precipitate is never seen.
3. The method is more exact with moderate room temperature than is the Esbach method.
4. Small amounts of urine are precipitated as well as are the larger amounts. This is especially important for febrile urines, as Esbach himself said his method was not suitable in these instances.

It occurred to us that use might be made of this solution of Tsuchiya as a basis for a titration method, and it remained but to determine the amount of albumin which would first cause a cloudiness.

We dissolved 1 gm. of crystallized egg albumin in 100 c.c. of distilled water (Solution A). Of this we took 1 c.c. and diluted with 9 c.c. of distilled water (Solution B) so that in the 10 c.c. there was 0.01 gm. of albumin, in 1 c.c. 0.001 gm., and in 0.1 c.c. 0.0001 gm. We put in a test-tube 5 c.c. of the following solution:

Phosphotungstic acid	1.5 gm.
Hydrochloric acid (conc)	5 c.c.
Alcohol, 95 per cent. q. s. ad	100 c.c.

We found that if the solution of egg albumin (Solution B) were added with a *pipette graduated in 0.1 c.c.* it took 0.1 c.c. to cause a cloudy precipitate with the phosphotungstic acid; in other words, 0.1 c.c. of the albumin solution contained 0.0001 gm. albumin.

To prove the delicacy of this test we took 1 c.c. of Solution B and diluted it with 9 c.c. of distilled water so that in the 10 c.c. there was 0.001 gm. albumin, *in* 1 c.c. 0.0001, and in 0.1 c.c. 0.00001 gm., and we found *that it required exactly 1 c.c. or 0.0001 gm. albumin to* cause a precipitate.

Having established the fact that the acid solution precipitated exactly 0.0001 gm. albumin, we applied our method to urine.

First the Heller test is made, and if much albumin is present the urine is diluted 1 in 10; if not, undiluted urine is used. Five c.c. of the phosphotungstic acid solution are put in a test-tube, and then with a 2 c.c. pipette graduated in tenths of a cubic centimeter, the filtered urine is added to this, shaken after the addition of each tenth and urine added until a whitish cloud appears. The number of tenths of a cubic centimeter is read off and expressed in terms of 100 c.c.

For example, if it takes 1 c.c. of diluted urine (1 in 10) there is 0.0001 gm. albumin in 0.1 c.c. of undiluted urine, or in 100 c.c. there is 0.1 gm. albumin, or 1 gm. in 1000 c.c. On the other hand, if 0.7 c.c. diluted urine (1 in 10) is used, then 0.07 c.c. undiluted urine equals 0.0001 gm. albumin, 7 c.c. diluted urine equals 0.01 gm. albumin, and 700 c.c. equals 1 gm. albumin. The following equation gives the percentages:

700 : 1.0 :: 100 : X or 0.142 per cent. or 1.42 gm. per thousand.

Since publishing the first report of this method we have made but one slight modification, and that is the use of water acidulated with acetic acid instead of ordinary distilled water for diluting. This we found especially useful with alkaline urine, which must always be made acid before examining. It must be remembered that if undiluted urine throws down a precipitate *after the addition of 0.1 c.c. it must be diluted with* nine parts of water and the test repeated, as there may be so much albumin that less than 0.1 c.c. of undiluted urine is required.

TABLE SHOWING RESULT OF QUANTITATIVE TESTS FOR ALBUMIN IN URINE.*

No.	Esbach—Old.	Esbach—New.	Titration.	Weighing.
1.	Did not settle.	0.025	0.06	0.06
2.	0.075	0.15	0.16	0.11
3.	Did not settle.	0.05	0.05	0.05
4	0.22	0.27	0.33	0.34
5	0.07	0.15	0.12	0.10
6.	0.02	0.05	0.1	0.17
7.	0.02	0.02	0.1	0.06
8.	Did not settle.	Did not settle.	0.33	0.35
9.	No ppt.	No ppt.	0.02	0.01
10.	No ppt.	No ppt.	0.01	0.01
11.	0.05	0.05	0.14	0.12
12.	0.1	0.15	0.33	0.30
13.	Not enough ppt.	0.016	0.08	0.11
14.	Did not settle.	0.012	0.06	0.05
15.	0.15	0.2	0.5	0.6
16.	Pleural fluid. 2.0	Pleural fluid. 4.0	Pleural fluid. 2.5	Pleural fluid. 3.6
17.	0.025	0.05	0.16	0.14
18.	0.012	0.025	0.05	0.03
19.	Below 0.025	0.025	0.1	0.06
20.	0.012	0.025	0.025	0.02
21.	0.07	0.125	0.1	0.15
22.	0.025	0.012	0.01	0.03
23.	0.05	0.075	0.1	0.1
24.	Did not settle.	0.05	0.05	0.05
25.	Did not settle.	0.012	0.01	0.02
26.	Did not settle.	0.025	0.02	0.04
27.	0.2	0.4	0.5	0.58
28.	0.2	0.3	0.33	0.38
29.	Did not settle.	0.1	0.1	0.12
30.	0.25	0.4	0.33	0.30

*In the columns "Esbach old" and "Esbach new" are the results obtained by using the Esbach albuminometer with the original picric acid solution and the phosphotungstic acid solution of Tsuchiya, respectively. The results by all four methods are expressed in per cent.

Our method has in all instances been controlled by the gravimetric estimation, made according to Englander's recommendation;[3] and in addition we have made determinations with the Esbach albuminometer, using the original picric acid solution and the phosphotungstic acid solution advocated by Tsuchiya. A study of the accompanying table shows three things: first, that the Esbach albuminometer used with the Esbach reagent is absolutely unreliable; second, that the phosphotungstic acid solution of Tsuchiya is an improvement and approaches more nearly the results obtained by weighing; third, that the determination of albumin by means of our titration method is startlingly exact, in but few instances varying from the gravimetric method, and then in only a slight degree.

We have had opportunity to study but one specimen of pleural fluid (No. 16). In this instance the result was not very satisfactory and more work must be done in this direction before a final answer is given as to the usefulness of the method in such cases.

In conclusion, our method for determining the amount of albumin by titration is to be recommended on account of its simplicity, accuracy and the rapidity with which one obtains results. It is applicable to urines containing but faint traces of albumin, such as those in cases of febrile albuminuria, which are not suitable for the Esbach method. The method is also accurate for large quantities of albumin. So far we have been unable to find any sources of error in our method such as must be taken into consideration with the Esbach albuminometer. We propose to study this question still further, making it the basis of a later communication.

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[2] Tsuchiya: Zentralbl. f. inn. Med., 1908, p. 105.

[3] Engländer: Zentralbl. f. inn. Med., 1908, p. 265.

NOTE.—Since we wrote this article, a paper has appeared in THE JOURNAL, Oct. 31, 1908, p. 1511, by Dr. H. R. Harrower, describing a "new instrument for the rapid and accurate determination of albumin in the urine." This instrument is for use with the reagent mentioned by us in THE JOURNAL, July 4, 1908, in connection with our new method of albumin determination, and has a bulb for 5 c.c. of the reagent, above which is a 3 c.c. tube graduated in tenths of a c.c. Harrower makes use of our determination of the amount of albumin precipitated by 5 c.c. of the phosphotungstic acid solution, and reads off in his tube the amount of urine which must be added to produce a cloud. We see in Harrower's instrument a complication of our method. We put 5 c.c. of the reagent in a test tube and add the urine from a pipette graduated in tenths of a c.c. reading off the amount of urine producing a cloud. Harrower's method is unnecessary, as essentially his instrument is nothing but a test tube and a graduated pipette in one. Apart from the expense of the instrument, the difficulty in keeping it clean is not insignificant. As our method requires but a test tube, a 5 c.c. pipette for measuring the reagent, and a 2 c.c. pipette graduated in tenths of a c.c., we think Dr. Harrower's instrument is unnecessary, as no time is saved and many disadvantages are connected with it which are absent in our procedure.

2035 Chestnut Street.

Clinical Notes

TREATMENT OF COMPOUND COMMINUTED FRACTURE OF BOTH TIBIA AND FIBULA

J. W. INGRAM, M.D.
MARSHFIELD, ORE.

The case in question was that of a young man, aged 27, who, while employed as a railroad brakeman, was injured Nov. 6, 1906, by a collision of the locomotive, on which he was riding, with a carload of logs.

I saw the patient Dec. 4, 1906, twenty-eight days after the injury was received. During this time the patient had been treated by the company physician, with occasional consultations with the family physician. He had been told that an amputation of the leg would be the only procedure. This was asked for by his physicians on several different occasions, but was refused by both the patient's father and the patient himself.

After a careful examination I found that a compound comminuted fracture of both bones existed at about the junction of the lower with the middle third of the leg. The communication on the external side was from two and one-half to three and one-half inches in length, through which splintered portions of the fibula were removed, in all: I should judge, about one inch. The two fractured ends were lying at an angle, with the apex outward, and so dense had become the adhesions that to replace them seemed impossible, and I deemed it better surgery to trim off the ragged ends and not attempt replacing them. On the internal surface a communication varying from two to three inches in length existed: through this opening one-third of the circumference of the tibia was removed for a distance of four inches, extending into the medullary canal. About midway of this splintered portion the tibia was fractured completely across. A free flow of pus was coming from both wounds.

After removing the splintered portions of bone, which was done on Dec. 8, 1906, at the Mercy Hospital, North Bend, Ore., and making the wounds as nearly sterile as possible, the next problem that presented itself was the nature of the dressing to be used. I had carefully considered the plaster-of-Paris dressing with a glass window, with many other methods and appliances, but found none of them suitable for this particular case. In the first place, it would need multiple daily dressings for some time, daily irrigations, and at the same time the minimum amount of disturbance and as near absolute rest as possible if union was to be hoped for.

I, therefore, devised the following method, illustrated by the accompanying diagram. I took the ordinary perforated metallic posterior splint, put a few layers of cotton, adjusted it to the leg so that it would fit snugly from the knee to the heel inclusive. At the site of the wounds on either side I removed a semicircular piece of the splint in order to allow free access to the wounds. This was made firm by a few bands of one-inch adhesive plaster encircling the leg. This dressing held the bones in perfect apposition just as long as an equal pressure could be maintained on the leg for the entire length. This was accomplished by the use of an extra large pair of suspenders of the pulley type, with as little elasticity as possible (illustration).

I first applied a piece of adhesive plaster, two inches in width, one inch above the wound, allowing it to encircle the leg completely, then passed it through a buckle and around the leg again. Into this buckle were hooked the ends, A A, shown in the diagram. I next passed a similar piece immediately below the wounds, treating it in the same manner, into which was buckled the end marked B in the diagram. Still another piece was passed over the heel, including the heel by cutting a slit in the center of the adhesive plaster; into this piece was buckled the end C, as shown in the diagram. By the use of the suspension used, as shown by the drawing, an equal pressure was maintained on all portions of the leg at all times and at all angles. The two posterior straps, D D, were separated by a steel rod five inches in length, hooked at either end into the straps, with an eyelet in the center into which a rope was tied and in turn run through a pulley fastened into the ceiling and then to the head of the bed.

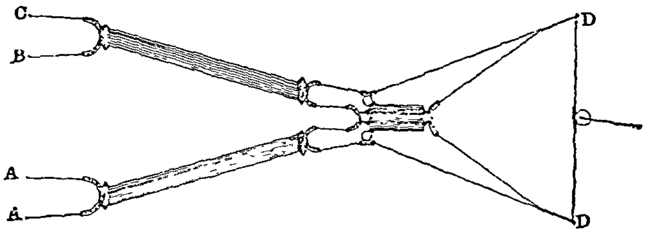

Diagram of suspension apparatus used in compound comminuted fracture of tibia and fibula.

This suspension was used during all irrigations and dressings, allowing the leg to be raised with the least amount of disturbance to the parts possible. The leg was thus raised when the bed-pan was used and when the bed linen was changed. At no time did the patient complain of any uneasiness or pain while the leg was being raised or lowered. This treatment was continued for about sixty days. During the daytime the leg was allowed to rest on a pillow and at night raised just sufficient to be clear of the pillow beneath.

To avoid soiling the dressing in the splint and to keep the water from finding its way beneath the cotton was a problem to be considered, and one which, in fact, had to be solved if I hoped to be able to keep the one splint on for any length of time. The difficulty was overcome in the following manner: After thoroughly adjusting the splint I applied a medium thickness of cotton over the entire surface of the splint, allowing it to come up on the leg about half an inch for the entire length of the splint; then over this I applied a free coating of collodion, thus sealing it up most thoroughly. After about sixty days this dressing was removed. A perfect union had taken place; the leg was found to be in a perfectly healthy condition, with no signs of heating or absorption of moisture from the constant irrigations. The patient was dismissed from the hospital, with both wounds healed, with the exception of a slight opening, which healed in a few days without difficulty. This was just seventy days after I first saw him.

The question has since presented itself to my mind whether a more permanent suspension, that is, one without any elasticity to it, would be of better service than the one which I used in this case. In case the patient should jump in his sleep there was no suddenness to the stoppage of the leg should he raise it and again drop it, as there would be in an ordinary leather suspension.

It is easy to see by the accompanying drawing that when the patient would raise the upper portion of his leg the various straps would loosen and adjust themselves in such a manner as to keep up a constant and even pressure on all parts of the leg at all times. To this method of treatment and mobilization of the parts I credit the good results in giving the patient a comparatively good leg with the least noticeable limp.

RADICAL TREATMENT OF HEMORRHOIDS BY EXCISION.

JOHN A. HAWKINS, M.D.
Professor of Diseases of the Rectum in the University of Pittsburg; Rectal Surgeon to St. Francis Hospital.
PITTSBURG, PA.

In *American Medicine,* June, 1901, I described an operation for the radical cure of internal and external hemorrhoids by excision, and a clamp used in this operation. The results of more than 500 operations by the excision method in private and hospital cases, after more than 500 operations by the clamp and cautery, have satisfied me that the first-named method is the only surgical treatment for hemorrhoids. Excision by the method I advocate in no way resembles Whitehead's operation, which I fervently condemn.

Since the publication of the article above referred to I have modified the operation somewhat, and at the present time in many cases use no special clamp, but pick up each tumor with ordinary hemostats and excise and suture the pedicle.

In the article just mentioned I described a method by which I clamped up the tumor in its entirety close to its base, shaved off the tumor close to the thin-bladed narrow clamp and then passed and tied a deep suture above the end of the clamp and passed the continuous suture under the clamp through the pedicle from one side to the other, then over the clamp to a point about one-fourth inch below the entrance of the preceding puncture, and so on until the entire pedicle was sutured. I always left the suture loops very loose so as to allow the clamp, when loosened, to be withdrawn, after which the suture was drawn tight, loop after loop, until the cut edges of the pedicle were approximated, when the end of the suture was tied below the lower end of the pedicle.

With the operation as above briefly described the results were good, as the tumor was pulled into the jaws of the clamp just desired, especially where the parts are uneven and much distorted.

Of late in using the clamp I have been using a No. 2 chromatized catgut interrupted suture for the mucous membrane (internal hemorrhoids) and a fine black silk for the skin (external hemorrhoids) suture with even better results than with the continuous catgut suture.

The operation in detail is as follows: The patient is prepared in the usual manner, the bowels are emptied by a cathartic and an enema given three hours before time of operation. The anal region is shaved and cleaned thoroughly. After complete general anesthesia the sphincters are divulsed with the fingers and the tumors are located and picked up with hemostats. The lowermost tumors are removed first to avoid any blood from above obscuring the view during the operation. The hemorrhoid is drawn into the clamp with thumb and forceps in its entire length, including the internal and external portions, if both are present; then the mass is shaved off close to the tightly closed clamp and the sutures are introduced. I am in the habit of passing a suture or ligature deeply through the tissues immediately above the end of the clamp, this ligature passing under the artery leading into the tumor, and I leave the ends of this ligature long so as to use it for a tractor if for any reason the clamp should slip or it be necessary to draw out the pedicle. The sutures are now passed beneath the clamp at intervals of three-sixteenths or one-fourth of an inch and the ends left long enough to tie. After all are inserted the clamp is removed and the sutures are tied, the pedicle being steadied by the traction suture and the canal being held open by my narrow steel retractors. The sutures having been tied and cut short, the next tumor is taken up and treated in the same manner, after which the pedicles are again examined, the traction sutures cut short, and a narrow strip of gauze inserted into the anal canal, its end protruding. This strip of gauze is left in for only twenty-four hours, then it is soaked with hydrogen dioxid, which softens its adhesions with the cut surfaces, after which the bowels may be moved by a dose of licorice powder or castor oil. When the patient expresses a desire for an evacuation of the bowels the nurse injects two to four ounces of sweet oil into the bowel and after the evacuation only the outer parts are washed. I have never seen infection follow this operation. A gauze compress is applied, over this a compress of sterile oakum, and all held in place by a triangle bandage.

The bowels are moved in twenty-four to forty-eight hours. Opiates are rarely given and the patient gets out of bed to urinate. The patient is kept on liquid diet until the bowels move, then light diet is allowed. In four to six days (or earlier if he feels able) the patient is allowed out of bed with full diet, the bowels if constipated being moved every other day as described above.

It is extremely rare to find the wound not completely healed within ten days.

An ointment of extract of hamamelis 8 gm. (6 scruples), phenol 1.25 gm. (19 grains), and calomel 1.25 gm., in zinc oxid ointment 20 gm. (5 drams), twice daily through a pile pipe, and also after the bowels move, hastens the cure, with comfort for the patient.

Note:—The original operation with clamp and continuous suture has been described by others on several occasions within the past seven years, but the date of the original article, June, 1901, precludes the claim of priority by others.

J. A. H.

800 Keenan Building.

ISCHEMIC CONTRACTURE WITH SECONDARY ULNAR NEURITIS, THE RESULT OF BRACHIAL THROMBOSIS.

G. M. ASTLEY, M.D.
PHILADELPHIA.

In view of the fact that numerous papers have recently been written on the subject of ischemic muscular contractures, I thought it of interest to report the following case, because in its course the sequence of the various steps that occur in typical cases of Volkmann's paralysis is presented, without the complicating factor of pressure from bandages, which has been thought by some to be a factor in producing the deformity from contracture, after some cases of fracture near the elbow joint.

For the privilege of reporting this case I am indebted to Dr. Thomas R. Neilson of the Episcopal Hospital of Philadelphia; and, for the notes made at the Orthopedic Hospital, to Dr. Francis W. Sinkler.

The notes here presented are those made at the time in the hospital.

Patient.—A salesman by occupation, aged 42, was brought to the hospital at 7:30 a. m., June 10, 1905, on account of loss of use of the right arm and severe pain. His family history was negative.

Personal History.—The patient denied having had any venereal affection of any kind. He had not been a user of tobacco or stimulants to excess. There was no history of infectious disease save frequent attacks of grip. Seven years ago he began having nasal trouble, which persisted and became much worse. Severe head pain and insomnia later developed. The patient almost completely lost his sight and sense of smell and became a mouth-breather. He became very despondent and had intervals of condition bordering on mania. His condition about eight months ago was diagnosed as sphenoidal sinusitis. Treatment was rapidly followed by improvement. About a year or a year and a half before admission to the hospital the patient was told that he had mitral regurgitation with cardiac hypertrophy.

Present Condition.—On the day of admission the patient said that he arose feeling perfectly well; that he did some slight work about the house and wrote three letters before the present trouble appeared. (He was right-handed.) About 6:30 a. m. he began having severe tingling in the finger-ends of the right hand. The sensation rapidly became one of great pain, and extended upward, involving the hand, wrist, and ultimately the whole forearm. He became alarmed at the condition and came to the hospital, arriving about an hour after the onset of the trouble. On his arrival the right hand and forearm were pale and cold; absolutely no swelling was present, and sensation was entirely absent. No pain was complained of when any part of the forearm was pricked quite sharply with a pin. No radial pulse was palpable; no pulse at elbow, none in arm. High up in the axilla a faint pulsation could be felt. The patient could not move his fingers. On account of the severity of the pain morphin was given. Three-quarters of a grain, given during a space of about five hours, had little effect. The arm was wrapped in raw cotton, hot-water bags kept about it and was elevated. Nitroglycerin and veratrum were given internally.

6 p. m.: A very faint radial pulse could be felt, and the area of anesthesia had lessened now including only the ulnar side of the hand and four fingers.

10 p. m.: The patient's condition was about the same; he still complained of severe pain. The fingers and hand had become quite rigid. There was slight flexion at the wrist.

June 11: The patient was delirious on the preceding night and out of bed several times. He did not know where he was. This forenoon he saw a patient in a neighboring bed, suddenly realized where he was and apparently remained rational after then. His hand and forearm were somewhat swollen. The radial pulse was not palpable; the hand was warm; the veins filled slowly from below when emptied. The fingers and hand were rigid; the wrist and fingers somewhat flexed and the sensation in the fingers was not very acute.

June 12: The temperature was up to 102. The previous night the patient was again delirious, not as badly as on the preceding night. Below the elbow the forearm was much swollen. The skin was red, tense and shining. The local temperature was much above the surrounding. The forearm was quite tender to the touch. The first metacarpal interspace was swollen and tender. The local condition was not as severe as above. In both instances inflammation appeared to be in the deeper tissues. There was not a superficial cellulitis There was no apparent wound for infection. In the afternoon the patient's condition was not improved. Five incisions were made in the forearm over the swollen area and a quantity of serum liberated. The patient was again delirious in the evening.

June 13: The swelling was considerably reduced and the tenderness less marked. The hand was about the same. The radial pulse was re-established.

June 15: The swelling was reduced and temperature down. Sensation returned everywhere. The fingers were still quite rigid. There was no more pain.

June 20: The wounds were healing. Rigidity was present.

June 30: The wounds were almost entirely healed. The patient had been having massage for about a week. The tendency to contraction was quite marked.

July 4: The patient was referred to the dispensary. The patient was seen at irregular intervals during the next two months. An atrophy and claw hand developing, he was referred to the Orthopedic Hospital. The following notes were kindly furnished by Dr. Sinkler:

NOTES FROM ORTHOPEDIC HOSPITAL.

September 8: The skin over the dorsum of the hand was glossy. The thenar and hypothenar muscles and the Interossei were wasted. The fourth and fifth fingers could not be extended within 40 degrees of straight, but could be fully flexed. The fingers could not be separated or abducted. There was anesthesia of the outer aspect of the fourth finger and all of the fifth. Some lessening of sensation of the other fingers from tip to distal phalangeal articulation, and anesthesia of the ulnar side of the hand. Massage and electricity were prescribed to be administered three times a week.

September 15. The patient felt pain in the fifth finger when stuck, but felt no sensation to touch; that is, he had no analgesia, but anesthesia.

September 22: The patient moved his fingers a little better.

October 13: The dynamometer showed right hand 10; left, 65. The patient was better; wrote better. Sensation was still impaired in the fourth and fifth fingers at the hand.

Diagnosis.—Ulnar neuritis. In a note Dr. Sinkler says that possibly division had occurred through incision over the course of the nerve.

These notes were made about two months after the last of my own.

The case then shows a complete ischemia caused by a thrombosis or an embolism, probably the former, I believe. The first evidence of contracture was rigidity, which was sufficient to attract attention at 10 p. m., approximately fifteen and one-half hours after the beginning of the trouble, though it may have been present earlier. This appeared in spite of the fact that there had been some circulation for four hours, at least a slight radial pulse having been detected at 6 p. m. At this time there was also a slight restoration of sensation.

On June 15, 1905, five days after the injury and three days after the incisions were made, the notes say that sensation had everywhere returned. This, I think, shows positively that the conclusions by the physicians at the Orthopedic Hospital, that the nerve had been severed at the time the incisions were made, to be erroneous. Nor do I believe that there could have been any involvement of the nerve in the cicatrix, for the incision was in the upper third of the arm and did not involve muscular tissue.

At the time of the patient's discharge "the tendency to contracture was quite marked." The hand was flexed at the wrist, the fingers semi-flexed, and not in the typical *main-a-griffe* shape.

I saw the patient but seldom during the interval between discharge and admission to the Orthopedic Hospital and do not know when the ulnar neuritis developed.

The points of interest in this case are, then:

1. A brachial thrombosis or embolism which was not followed by gangrene.
2. An ischemic contracture, as evidenced by rigidity of the hand and flexion at the wrist appearing not later than fifteen and one-half hours after the blocking of the circulation.
3. The re-establishment of the circulation and sensation (nerve conductivity); the sensations are recorded as everywhere present five days after the injury and three days after the incisions.
4. The onset of an ulnar neuritis at a subsequent period, due presumably to a pressure neuritis from the contracture of the degenerated muscle.
5. The probability of some involvement of the median nerve, as shown by the note from the Orthopedic Hospital, "some lessening of sensation of other fingers from the tip to the distal phalanges."
6. The partial recovery at any rate from the ischemic contracture, for when the patient presented himself at the Orthopedic Hospital he could extend the index and middle fingers as well as flex them.

I regret that it has been impossible to find the patient in order to report on his present condition.

5211 Girard Ave.

Polydipsia in School Children.—G. Paul Boncour, in *Progrès Médical*, Aug. 22, 1908, calls attention to a little noticed factor which he thinks accounts for certain difficulties in school children attributed to other factors. Certain children show a marked inaptitude for work and feebleness of attention, learn their lessons poorly, but seem more apathetic than unruly. According to the parents, such children suffer from headaches, sleep poorly, have irregular appetites, but are inclined to drink large quantities of water. These symptoms appear after the first heat of summer and can not be traced to any organic disease like diabetes, etc. Boncour attributes the nervous symptoms to a bad habit, originating in the desire for water during the first hot weather. The stomach is overloaded and dilated and fermentation and autointoxication result, which in children with a nervous predisposition reveals itself in the symptoms complained of. The desire for water is compared, by him, to a tic. The desire for drink is felt and expressed without reflection. It is simply a bad habit based on an original nervous and psychic debility already existing. The facts demonstrate, he thinks, the necessity of a medico-pedagogic study of school children presenting abnormal symptoms that are liable to be taken as the result of overstraining.

INFLAMMATION OF MECKEL'S DIVERTICULUM SIMULATING APPENDICITIS.

D. A. EWING, M.D.
SEATTLE.

The presence of Meckel's diverticulum and acute inflammation of that rare appendage is of sufficient interest to merit reporting.

This case is especially interesting because it occurred in a man who had previously had two attacks of appendicitis and whose present illness was thought to be due to an inflamed appendix.

Patient.—A rather heavily built man, aged 37. As a boy he had frequent attacks of pain in lower abdomen; had an acute attack of appendicitis five years ago and another one two years ago. For several weeks prior to the present attack he had had an uncomfortable feeling in lower part of abdomen but no acute attacks of pain.

Present Illness.—The patient was taken suddenly with severe pain in the lower part of the abdomen about noon, Sept. 27, 1908. An ice-bag was at once applied, affording only moderate relief. I saw the patient at 4 p. m., when he was in very severe pain and was vomiting bile-stained fluid. The pain was low down on the left side and there was tenderness on deep pressure over both sides of lower abdomen and considerable muscular rigidity, the same on both sides. On account of the thickness of abdominal walls no particular point of tenderness could be found. A soapsuds enema was given and bowels moved, with considerable relief of the pain. Temperature was 98.5; leucocytes were 9,200. At 10 p. m. pain was less; temperature 100.6; pulse 92. Next morning pain was about the same; temperature 99.6; leucocytes 12,000; tenderness and rigidity continued over both sides lower abdomen.

Operation.—Made at 2 p. m. Incision over appendix. The appendix was firmly bound down by adhesions, and when I endeavored to get it to the surface a portion of the lower ileum came into view, showing a diverticulum about the size of a small walnut. Its attachment, as is usually the case, was opposite the mesentery. Its lumen communicated with the bowel by an opening about the size of a dime. It was acutely inflamed and contained no concretions. Its walls were thin, and while we were examining it the diverticulum inflated to twice its natural size. It was easily ingavinated into the bowel and a double row of linen sutures placed. The appendix showed only a mild degree of inflammation and was bound by adhesions. It was removed. The appearance of the appendix showed that it had been the seat of previous inflammation, but the present condition seemed hardly to account for the symptoms that the patient had. The cause of the trouble was probably the distention of the diverticulum and a consequent localized peritonitis; the walls being thin, the diverticulum could easily have been inflated to the size of a baseball.

Postoperative History.—The patient made a good recovery.

615 Alaska Building.

Therapeutics

INFANTILE PARALYSIS.

Acute anterior poliomyelitis, though by no means a frequent disease, occurs more frequently unrecognized than any other serious disease of young childhood. The difficulty of its recognition is that a mild attack may leave such slight symptoms that at first the localized muscle debility is not discovered. The future welfare of the muscles affected depends so much on the early recognition of the presence of the disease and its proper treatment that too great care can not be exercised in testing the condition of the four extremities of a child who has had a sudden unexplained febrile attack. Epidemics of this disease occur, but it appears sporadically probably in all parts of the United States. The age of its occurrence is most frequently from 1 to 3 years and it is rare after 5 years of age. It is doubtless a germ disease, which seems to develop most frequently in the summer months, and strikes without premonition as rapidly as does fulminating *cerebrospinal* meningitis.

While most children attacked by the disease have high temperature, vomiting, headaches, and muscle aches, and are acutely ill, others may not be known to have been attacked until it is found that one or more extremities are paralyzed. Convulsions may occur, and the fever symptoms may last from twenty-four to seventy-two hours. There is then rapid improvement in all the muscles except those that are permanently involved. The legs are more likely to be involved than the arms, and a leg more frequently than an arm. If this paralyzed leg is not properly treated the muscles will atrophy, muscle and nerve degeneration will take place, and contractures of the muscles will occur.

Dr. David T. Bowden, Paterson, N. J. (*Journal of the Medical Society of New Jersey*, November, 1908), describes a series of cases of this disease which he saw during the epidemic of 1907, and from his experience advises the following line of treatment:

If the child is seen during the acute or fever stage he would give a calomel purge, encourage sweating by hot packs, hot drinks and hot blankets, and if the fever were high would *administer an antipyretic. He speaks* of using leeches, but does not say where he would apply them. After the fever stage he would keep the little patient as quiet as possible, would wrap up the extremities that have lost their proper circulation in flannel and cotton, and as soon as the tenderness of the muscles had subsided would use gentle massage and muscle kneading, together with electricity. As soon as any contractures in muscles or tendons were noted he would use passive counteracting movements and such apparatus as would prevent deformities.

The form of electricity to use depends, of course, on the ability of the muscles to react. If they react to the faradic current that would be the one to use. If they were so debilitated as not to react to the faradic current, then the continuous current with regular interruptions should be used. Electricity and massage should be kept up continuously for a long period until there seems no further improvement in the muscles. Even in neglected cases it is astonishing how much can sometimes be done by proper massage, passive motion and electricity. If any deformity is starting or is present, an orthopedic surgeon should be consulted and the best possible apparatus applied, while the electricity and massage are kept up.

Bowden urges that no operation should be done in the way of tendon cutting until it has been thoroughly demonstrated that apparatus and physical measures are not successful in diminishing the deformity.

GOUT.

Dr. Oliver T. Osborne, New Haven, Conn. (*Monthly Cyclopedia and Medical Bulletin*, August, 1908), discusses the etiology and treatment of this disease. He says that gout seems to be a disturbance of the metabolism, and "may be defined as a non-infectious, aseptic disease due to a disturbance of the transformation of the protein food molecule, more especially the purin molecule, to the excretion end-product." Hence there is no one cause of gout. This definition "does not diminish the importance of predisposing causes of gout, such as heredity, age, habits, alcohol, *overeating of rich* foods, prolonged mental depression or worry, and such infections as leave lesions of the organs engaged in nitrogenous metabolism." Acute attacks of gout may be precipitated by eating more or less proteins containing purin bases (nucleoproteids). This does not mean that uric acid is a cause of gout, but that foods rich in nucleins, and such combinations of food and alcohol as will produce large quantities of uric acid, will certainly make a gouty condition worse.

It is not necessary for the diagnosis of gout or for a patient to be "gouty" "that he should have gouty joints, chalky nodes, gouty kidneys, concretions, or even shooting joint pains. An increased arterial *tension, increased* force of the heart beat, a little extra amount of urine, a slightly increased frequency of micturition, repeated *gastrointestinal upsets*, skin irritations, nerve pains, frequent headaches, especially occipital," all simple disturbances in themselves, when taken together mean that a gouty condition is present. Any condition that much disturbs the normal metabolism of the nitrogenous food from ingestion to excretion may cause gout, and if this disturbance is continually in evidence or intermittently repeated, confirmed gout may be the result.

"To treat gout properly we should:

"1. Carefully study the functioning of each organ.

"2. Know the kinds and amounts of foods ingested and how well they are excreted, and especially in what form the nitrogen appears in the urine; how much urea, how much uric acid.

"3. Arrange the food and liquids ingested to meet the defects discovered in the functioning of the organs of metabolism and excretion.

"4. Treat or modify all complications present.

"In other words, there is no one way to treat or manage chronic gout." Each *patient must be individualized* as to the food and drink he should take.

"That deposits of urates around the joints at times disappear may be an observed fact, but there is no known treatment, medicinal, electric, hydrotherapeutic or other that will cause the dissolution of such deposits." All good hygiene, such as mental and physical rest, clean, dry air when the patient can obtain it, and such hydrotherapeutic measures as tend to keep the skin healthy will aid in preventing gouty symptoms.

If there is an exacerbation of gout or an acute attack there is no treatment "more efficient than a calomel purge, saline laxatives, *and salicylic acid or some form* of colchicum." An acutely inflamed gouty joint needs "rest, moist sedative fomentations, morphin sufficient to stop the pain, a dose or two *of a coal-tar product*," *if* deemed advisable, and colchicum or salicylic acid, whichever is found to act better in the individual patient.

Osborne has found that 0.10 to 0.20 gram (2 to 3 grains) of thyroid gland substance, given once a day, for a long period, will *many times prevent the* recurrence of acute gouty attacks.

Psoriasis in Children.—*In children*, psoriasis presents itself in localized patchy lesions with silvery white scales, although in cases in which there is much associated seborrhea the lesions are covered by yellowish and fatty crusts instead of by the dry scales of the ordinary type. On scraping with the nail or an instrument the scales *fall in a shower-like* manner. —W. B. Brown, in the *American Journal of Obstetrics.*

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SATURDAY, DECEMBER 12, 1908.

THE ANTI-INFECTIOUS POWER OF LEUCOCYTIC EXTRACTS.

Of the great importance of the leucocytes in infections there is no question. They constitute an essential element in those reactions to infection in which phagocytosis takes place. The evidence of actual intraphagocytic destruction of many bacteria is convincing. This is especially true with respect to those bacteria which do not undergo lysis in the serum, namely, pneumococci, streptococci, paratyphoid bacilli and others. Several investigators have been able to extract bactericidal substances from leucocytes, so-called endolysins, which appear to act directly on the bacteria without the adjuvant or activating influence of complement. There is difference of opinion as to the ability of the leucocytes to produce free antibodies as the term antibody is understood ordinarily, and it can not be stated that it has been shown definitely that they produce complement, although Metchnikoff and his followers seem to harbor no doubt but that they can. From time to time it has been suggested that the leucocytes may contain or produce substances that neutralize toxic microbic products, but that such is the case has not been demonstrated clearly.

The most recent work on the anti-infectious powers of leucocytes is that of Hiss and Zinsser,[1] who in a series of papers give the results obtained by them from experiments on the curative effects of watery extracts of leucocytes in infections. Their immediate object was to determine whether or not extracts of leucocytes have any curative effect on established infections. In most of the experiments rabbits were used and rabbit leucocytes. The leucocytes were obtained by intrapleural inoculations of aleuronat which give rise to an abundant and richly cellular exudate. The exudate was withdrawn at the end of twenty-four hours, centrifugated, the serum removed and sterile distilled water added to the cells in amounts about equal to the fluid poured off. The cells were then thoroughly distributed throughout this water and the mixture was allowed to stand for a few hours at 37.5 C. and then was kept in the ice-box until used. Before injecting this fluid the mixtures were thoroughly shaken so that the cell residues were also used. The extracts were then tried by injection into animals, mostly rabbits suffering from the effects of intravenous injections of staphylococci, streptococci, pneumococci, typhoid bacilli and meningococci. In all these infections the extracts of leucocytes seem to have had considerable beneficial action so that many animals survived inoculations even when treatment had been delayed as long as twenty-four hours after infection. In many cases the injection of the extract was followed by a marked fall in the temperature and a rapid return to normal.

Extract of rabbit leucocytes was also used in cases of epidemic meningitis and lobar pneumonia. Twenty-two patients with meningitis were treated, and of these fourteen recovered (63.6 per cent.) and eight died (36.4 per cent.). The study of the course of the disease in individual cases gave the impression that the extract often produced immediate changes for the better in the condition of the patient, especially in the symptoms of nervous origin such as delirium, stupor, hyperasthenia. The quantity of extract administered ranged from 5 to 20 c.c. On account of the promptness of the effect Hiss and Zinsser are inclined to attribute the action to one of neutralization of poisons. In many cases there was marked reduction in the temperature, and in some cases the spinal fluid often became much less turbid after the first injection; this, however, may have been the result of the repeated withdrawal of fluid by lumbar puncture.

Seven patients with lobar pneumonia were treated, a number naturally too small to be considered statistically. The uniformity with which the temperature would fall after a single injection of the extract was noticeable, and, taking it all in all, Hiss and Zinsser gained the impression that the extracts are not unlikely to prove of therapeutic value.

It is clearly evident, as the investigators themselves point out, that the validity of the observations and the soundness of the inferences drawn from the experiments in the human infections can be determined only by much further investigation. It may be said, however, that in infections in rabbits the leucocytic extracts certainly seem to have had a more or less well-marked curative effect. It is, therefore, possible that if it were feasible to use extracts of homologous leucocytes in human infections the results might be better. Naturally the question arises as to the nature of the substances in the extracts to which these owe whatever anti-infectious powers they may possess. Special experiments are reported the results of which indicate that the extracts do not promote phagocytosis. Whether or not they are bactericidal in the test-tube does not appear to have been determined. Some years ago we heard a good deal about the value of nuclein or nucleinic acid in infections, and more recently such preparations have been used to produce a protective preoperative peritoneal leucocytosis and also to produce leucocytosis for experimental purposes. Whether extracts of leucocytes prepared as Hiss and Zinsser prepared theirs contain nucleinic derivatives in so large quantities that the work here reported simply represents a new departure in nuclein therapy remains to be seen. At all events, further work on the anti-infectious properties of leucocytic derivatives is indicated, and Hiss and Zinsser may be congratulated on having reopened an inviting field for experimental study.

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[1] Jour. Med. Research, 1908, ix, 323.

THE FOOD VALUE OF NUTS.

In 1906 Prof. M. E. Jaffa, of the University of California, who for a number of years has made a study of the food value of nuts and nut products, published an article[1] dealing with this subject. He has recently revised and extended this article, which is now published as Farmers' Bulletin 332 and constitutes an interesting and useful summary of available data on the flavor, composition and digestibility of the substances in question. As a result of his investigation he finds that nuts represent a concentrated form of food, to even a greater degree than cheese, and when rationally indulged in they are well assimilated and may enter into the formation of a well-balanced diet. They contain valuable amounts of protein and fat, both of which are characteristic constituents of the more common varieties of nuts, of which the walnut and cocoanut may be considered as types. Carbohydrates are the preponderant constituents of nuts like the chestnut.

In most instances it is economically wiser to use nuts as part of the regular diet rather than as a condiment or a supplement to an otherwise hearty meal. Nuts should not be depended on as the main food supply by vegetarians and others who use them in place of meat, but they should be supplemented with more bulky foods with a low content of protein and fat.

Nuts are to be classed among the staple foods and not simply as food accessories, and at usual prices they are economic sources of protein and energy. Peanuts supply these factors cheaply, even as compared with such staple foods as bread and beans. From the various nut foods on the market little is to be gained from the standpoint of food value or economy in their use in place of the ordinary nuts and home-made nut products, especially by healthy persons willing to masticate their food thoroughly and to use nuts in reasonable combinations. Unless some addition has been made, the nutritive value of such special preparations can not be greater than that of the nuts that form their basis. Furthermore, nut butter and similar foods provide a means for pleasant variation in the diet, and they are relished by many who would not care for the unprepared nuts. Though less subject to contamination than many other foods, nuts should be handled and stored under appropriate conditions, and they should especially be protected from dampness and the invasion of insects.

ARMY IMMUNIZATION AGAINST TYPHOID.

A board of medical officers, recently appointed for the purpose, has met in Washington, D. C., this week to investigate the question of the advisability of immunizing the regular army, and in case of war the volunteer army, against typhoid fever.[1] The board is headed by the Surgeon-General of the Army and includes, besides Captain Russell, the bacteriologist of the Army Medical School, such eminent civilian physicians and members of the Medical Reserve Corps as Victor C. Vaughan, Ann Arbor, Mich.; William T. Councilman, Boston; John H. Musser, Philadelphia; Alexander Lambert and Simon Flexner, New York; and William S. Thayer, Baltimore.

The appointment of this board marks an era in the history of the Medical Department of the Army, showing as it does the intention of its authorities to make use of the best medical talent of the country to assist them in solving the important problems which confront military sanitarians, both in peace and war. It was for this purpose that the inactive list of the Medical Reserve Corps, embracing the names of some of the most eminent medical men in the country, was recently constituted, this being the first time they have been ordered to active duty in the service of the United States. The subject which the board considered is of far-reaching importance; the experience of all modern wars has shown that typhoid fever is perhaps the greatest danger which threatens the efficiency of troops in time of war. Great progress has been made by the Army Medical Department in the handling of this disease in time of peace, but it is believed that the conditions in war time are such that more radical measures must be adopted to protect the troops.

The Surgeon-General of the Army has had the question of vaccination against typhoid under consideration for some time, and last spring Captain Russell, the pathologist and bacteriologist of the Army Medical School, was sent to Europe to study the matter, especially in Great Britain and Germany, which countries have had the largest experience with this method of procuring immunity. Captain Russell has recently returned and made a favorable report, and the appointment of this board is the outcome of his recommendation. The general medical public will be interested in the results of the deliberations.

THE PASSING OF THE PRECEPTOR.

With the advance of medical education, with the constantly increasing requirements for admission to the medical school, and with the lengthening and elaboration of the course of study necessitated by the enlargement of the field of medical knowledge, there has almost disappeared from view an erstwhile important factor in medical education—the preceptor. Formerly, before going to college, the student spent a year or more studying with his preceptor, going about with him, seeing his patients, and learning not only how to diagnose and treat disease, but, above all, how to conduct himself in his relation to his patients. His vacations were spent in the same manner, and thus from the beginning he was taught to meet his patients on a plane of personal relationship rather than to regard them merely as scientific problems. The graduate of to-day is often wofully lacking in the personal side of the physician's art, and it may take years of sad experience to teach him what his father unconsciously absorbed while learning the sutures of the skull. Interneship in a hospital can only partially replace this lost opportunity, for, while the young physician observes there the attitude of his chiefs toward the patients, the circumstances are quite different from those of general practice, as he must learn when he first "hangs out his shingle" and undertakes to meet the patient in his own home.

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[1] Yearbook of the U. S. Department of Agriculture.

[1] See department of General News and Comments in this issue for a statement of the action of the board.

The opportunity which came to the student of seeing patients with his preceptor before entering the medical school and observing the problems which must be met and solved gave him a sense of proportion which comes with difficulty to the student who is thrown without preparation into the perplexities of college life. The former was better able to grasp the importance of the subjects presented to him at college and their relation to the work which lay before him. It has been said that "a lofty scorn for detail is the natural attitude of the immature," and while the present tendency to insist on a preliminary training in the exact sciences is a healthy antidote for this attitude, the actual demonstration by the preceptor of the pre-eminent value of exact knowledge in treating the sick showed the student as nothing else could that generalizations can be based with safety only on a foundation of fact—that knowledge must come before wisdom. The encouragement and example of the wise preceptor taught the lesson that the medical school should be but the beginning of a lifetime of study — study of books, of men, and of things. The comprehension of the meaning of the medical school, the broader view of the opportunities which lay before him gained by the student who studied with the preceptor, particularly if he were fortunate in the choice of his preceptor, led inevitably to a greater interest in the work and to a more intelligent grasp of the subject.

The proper relation of the physician to his professional brethren, the time-honored principles of professional etiquette, and the physician's duty to the community at large were inculcated in the mind of the beginner in a manner which unfortunately has no parallel in modern medical education. Osler says of the "true student" that he may be recognized by three signs —"an absorbing desire to know the truth, an unswerving steadfastness in its pursuit, and an open, honest heart, free from suspicion, guile and jealousy." The passing of the preceptor has removed a powerful influence in the encouragement of such an ideal.

CAUSE OF EROTIC ABERRATIONS IN THE AGED.

The suggestion of Dr. James F. Percy,[1] that the erotic aberrations sometimes observed with approaching senility in men who have previously lived irreproachable lives may be due to some abnormality in the involution of the sexual organs, is worthy of some consideration. Certainly the idea of inducing a moral reform in these patients by surgical means is as rational as the propositions that have been made and extensively advertised in the lay press of reforming juvenile criminals by operations on the brain or even by the simple removal of adenoids. We know very little about the brain centers controlling immoral impulses or how they can be affected by the relief of respiratory obstructions, but we do know that the influence of the normal sexual organs on the psychic functions generally is a real one, and it is not a long step farther to suppose that their abnormalities and disorders may also have effects which sometimes may be relieved by their correction. The cases reported by Percy can hardly be classed as senile dementia except in a very limited sense; there could not have existed any such general organic degeneration and mental decay as we usually understand by the term, but it is not impossible or even improbable that there was a certain impairment of the higher inhibitions without necessarily any general impairment of intellection. In such a case the removal of a peripheral source of irritation, especially a source having so powerful an influence on the emotional life of the individual, might be followed by the best results. Percy seems to have appreciated the difference between these cases and senile dementia when he suggests the possibility of sexual neurasthenics and sexual perverts having "as an explanation of their mental aberration a pelvic rather than a brain pathology."

Medical News

CONNECTICUT.

Personal.—Dr. Stanley R. Benedict, assistant in physiological chemistry at Yale University, has been appointed instructor at Syracuse University.——Dr. Irving L. F. Nettleton, Bridgeport, who has been seriously ill with diphtheria, is convalescent.——Dr. William W. Brackett, health officer of New Britain, has resigned.

Work at State Laboratory.—At the quarterly meeting of the State Board of Health, Prof. H. W. Conn, director of the state bacteriological laboratory, reported on the work being done in that institution. With the appropriation of $7,500 he has established and equipped the laboratory, has examined 1,087 specimens for tuberculosis, 880 for diphtheria, and 528 for typhoid, and has made 974 tests of milk, in addition to other examinations.

Medical Staff Appointed.—The following medical staff has been appointed for the New Britain General Hospital: Attending physicians and surgeons—Drs. John E. Martin, Edward L. Whittemore, Kobert M. Clark, William W. Brackett, Elmer

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[1] Illinois Med. Jour., November, 1908.

L. Styles, Carl J. Hart, Harry A. Elcock, Ernst T. Froman, and Henry T. Bray, New Britain; William W. Christian, Berlin; E. Parker Sanborn, Bristol; Arthur R. Couch and G. Perry Eldredge, Hartford; eye and ear, Dr. Joseph H. Potts, New Britain; and pathologist and bacteriologist, Dr. Catherine H. Travis, New Britain. Consulting staff—Drs. Arthur S. Brackett and Charles R. Upson, Bristol; Dr. Charles M. Kent, Forestville; Drs. J. Norris Bull and Charles W. Moody, Plainville; Drs. George P. Cooley and Kenneth E. Kellogg, New Britain; Dr. Robert E. Ensign, Berlin; Roger M. Griswold, Kensington; Drs. Oliver C. Smith and Edward B. Hooker, Hartford; and Drs. Harry L. Fifield and William R. Miller, Southington.

ILLINOIS.

Personal.—Dr. Stephen V. Balderston has been appointed health commissioner of Evanston, vice Dr. William R. Parkes, resigned.——Patients of Dr. John B. Hench, Hinsdale, on Thanksgiving Day, which was also the twenty-fifth anniversary of Dr. and Mrs. Hench's wedding, showed their appreciation by presenting them with a chest of silver.——Dr. and Mrs. Frank A. Phillips, Chicago, are spending the winter in Arizona.——Dr. Arthur F. Beifeld and Dr. and Mrs. Milton K. Eisenstaedt, Chicago, have gone to Europe.——Dr. Otto T. Freer, Chicago, has returned from Europe, where he demonstrated his septum operation in clinics at London, Edinburgh, Berlin, Vienna, and other cities.

Cost of State Wards.—In a statement prepared by William C. Graves, secretary of the State Board of Charities, the average per capital cost in the seventeen charitable institutions of the state for the quarter just ended was $43.19. The figures for the individual institutions were as follows: Hospitals for the Insane: Southern Hospital, Kankakee, $29.23; Central Hospital, Jacksonville. $33.03; Southern Hospital, Anna, $33.30; Northern Hospital, Elgin, $64.55, and General Hospital, Watertown, $38.61, and Criminal Asylum, Menard, $42.15. Institution for Feebleminded, Lincoln, $37.11; School for Deaf, Jacksonville, $40.19; Girls' School, Geneva, $44.83; Boys' School, St. Charles, $54.96; School for Blind, Jacksonville, $68.42; Orphans' Home, Normal, $71.07; Soldiers' Home, Quincy, $32.74; Widows' Home, Wilmington, $67.14, and Industrial Home for Blind, $77.60.

Chicago.

Tuberculosis Hospital.—The construction work on the new million dollar tuberculosis hospital for Cook County will begin in a few days. The building permit has already been procured.

Surgeons Give Operating Room.—The surgeons of the staff of the Columbus Hospital have made a substantial donation to the institution by contracting to equip an operating room at a cost of more than $5,000.

New Contagious Hospital Opened.—The new City Hospital for the Treatment of Contagious Diseases opened November 28, with four patients suffering from diphtheria. Dr. Margaret M. Jones has been appointed physician in charge. The capacity of the hospital is about 200. Only cases of diphtheria and measles will be received in the institution.

November Mortality.—The deaths during November were 2,425, 144 more than for the preceding month; and 206 more than for the corresponding month of 1907, the respective annual death rates being 14, 12.41 and 12.81 per 1,000. Chief among death causes for the month were tuberculosis, with 303 deaths; pneumonia, with 275; heart diseases, with 225; and nephritis, with 200.

Contagious Diseases.—During the week ended December 5, 778 cases of contagious diseases were reported to the Department of Health, distributed as follows: Diphtheria, 192; scarlet fever, 183; measles, 102; chickenpox and tuberculosis, each, 93; typhoid fever, 52; pneumonia, 28, and whooping cough, 9. There was a decrease in all contagious diseases, excepting typhoid fever, which increased 8 during the week.

Fined for Violation of Ordinance.—Drs. Bernard DeKoven and Alexander A. Whamond are said to have each been fined $10 and costs, November 24, for failing to report cases of epidemic diseases to the commissioner of health. For a similar offense. Dr. Peter T. Burns is said to have been assessed costs of $7.75. Martin and Minnie Rudd were fined costs for permitting a child infected with contagious disease to break quarantine.

Hospital Pavilion Opened.—The private pavilion of the Presbyterian Hospital, completed at a cost of $390,000, was formally dedicated November 29. Albert M. Day, president of the hospital, delivered the dedicatory address, and an address was also made by Dr. Frank Billings. The new wing contains 58 private rooms and will accommodate 75 patients. A feature of the building is a sun parlor, the roof and one-half of which is enclosed in glass, so that patients may enjoy the sun in any kind of weather.

Deaths of the Week.—The deaths from all causes during the week ended December 5 were 520, the same number as for the preceding week and 26 fewer than for the corresponding week of last year. This is equivalent to an annual death rate of 12.52 per 1,000. Pneumonia, for the first time this winter, takes the place of highest mortality, with 87 deaths, followed by heart disease, with 57; tuberculosis, with 49; nephritis, with 41; acute intestinal diseases, with 38; violence (including suicide), with 29; cancer, with 23; diphtheria and nervous diseases, each with 20; typhoid fever, with 6; scarlet fever, with 9; and influenza and measles, each 2 deaths.

MARYLAND.

New Hospital.—Through the efforts of Dr. Howard Bratton, Elkton, president of the Board of Health of Cecil county, a hospital has been equipped and opened at Elkton, with accommodation for 26 patients, at an expense of $25,000.

Illegal Practitioner Found Guilty.—George M. Fisher, indicted by the grand jury for engaging in the practice of medicine without being registered, is said to have been found guilty by a jury at Hagerstown, November 24. Notice of appeal was immediately filed by his counsel.

Antituberculosis Association.—An antituberculosis association was organized for Montgomery county at Rockville, November 24, at which H. Wirt Steele, secretary of the state association, delivered an address on "How to Stamp Out Tuberculosis." Joseph E. Janney was elected president and S. F. Prettyman, secretary of the association.

Gift for Sanatoria.—Mrs. George H. Beckwith, Catonsville, has offered two tracts of land, valued at $100,000, one at Saranac Lake, N. Y., and the other at Aiken, S. C., to the United States Government for the erection of sanatoria for the poor suffering from tuberculosis. Mrs. Beckwith is endeavoring to obtain an appropriation from Congress for the erection of buildings on the tract of land at Aiken.

Society Meetings.—At the annual meeting of the Medical Society of Frederick County, held in Frederick, November 11, Dr. Arthur H. Hawkins, Cumberland, councilor for the district, spoke on "The Best Means of Having Largely Attended and Profitable Meetings of County Societies by Means of Postgraduates Courses and Carefully Reported Clinical Cases," and stated his belief the instruction afforded in this way would gradually draw all eligible physicians to join the organizations and remain in them from motives of self-interest. He instanced the work accomplished in this way in the Allegany County Medical Society and the different feeling engendered. The following officers were elected: Dr. Thomas C. Routson, Buckeystown, president; Drs. H. Slicer Hedges, Brunswick, and Charles F. Goodell, Frederick, vice-presidents; Dr. Franklin B. Smith, Frederick, secretary; Dr. Wilson A. Long, Frederick, treasurer; Dr. Charles H. Conley, Adamstown, censor, and Dr. Ira J. McCurdy, Frederick, delegate to the Medical and Chirurgical Faculty of Maryland.——At the annual meeting of Queen Anne County Medical Society, held recently, Dr. William G. Coppage, Church Hill, was elected president, and Dr. Ernest F. Smith, secretary.

Baltimore.

Grenfell in Baltimore.—Dr. Wilfred T. Grenfell of Labrador will be a guest of Dr. Henry M. Hurd in Baltimore, December 15 and 16, and will make several addresses on the subject of his work in Labrador.

Society Election.—At the annual meeting of Baltimore City Medical Society, held December 1, the following officers were elected: President, Dr. Jacob H. Hartman; vice-president, Dr. William D. Booker; secretary, Dr. William E. Magruder; treasurer, Dr. William S. Gardner, and censor, Dr. Randolph Winslow.

Personal.—Dr. Peregrine Wroth, Jr., resident physician at the Union Protestant Infirmary, has resigned and entered practice at Hagerstown. He will be succeeded by Dr. Richard P. Bell, of Staunton, Va. Dr. Harry L. Homer has been made first assistant and Dr. Arthur H. Morse, second assistant; Drs. James H. Scarborough and J. P. Fletcher have been appointed surgical internes and Dr. J. E. Barnes, Charleston,

W. Va., has been appointed medical interne at the institution. ——At the annual meeting of St. Andrews' Society November 30, Dr. George A. Fleming was elected president and Dr. G. Lane Taneyhill and Dr. Thomas L. Shearer were elected physicians.

MASSACHUSETTS.

The Smallpox Situation.—The smallpox situation in Springfield remains practically unchanged, and there are still about twenty-five families under quarantine.

Staff for Crippled Children's Home.—At the annual meeting of the New England Peabody Home for Crippled Children, Drs. Robert W. Lovett and Robert Souter were chosen attending surgeons; Dr. Henry H. Hitchcock, attending physician; Dr. Leon W. Mansur, oculist; and Drs. Abner Post, John H. McCollom, Albion S. Whitmore and Edwin B. Kellogg, consulting physicians.

Infectious Diseases.—There were reported to the State Board of Health during October the following infectious diseases: Diphtheria, 1,371 cases; tuberculosis, 593; scarlet fever, 592; typhoid fever, 405; measles, 321; whooping cough, 75; varicella, 64; cerebrospinal meningitis, 10; erysipelas, 3; rabies, 3; tetanus, 2; mumps, 2; ophthalmia neonatorum, 1; and malignant pustule, 1.

October Deaths.—During October, there were reported to the State Board of Health 3,294 deaths. Of these 1,114 were of children under 5 years of age; 986 were from the principal infectious diseases; 262 from acute lung diseases; 275 from phthisis; 67 from diphtheria; 42 from typhoid fever, and 8 from measles. During the month there were also reported 9 deaths from cerebrospinal meningitis, 5 from scarlet fever, 13 from whooping cough, 4 from meningitis, and 1 each from influenza, smallpox, tetanus, anthrax and glanders.

Personal.—Dr. Carl L. Alsberg has resigned his position in the department of physiological chemistry in Harvard Medical School, to take charge of the poisonous plant investigation in the bureau of plant industries of the United States Department of Agriculture.——Prof. W. B. Cannon has been elected president; Dr. J. L. Brenner, secretary, and Dr. Frank B. Mallory, treasurer of the Boston Society of Medical Sciences.——Dr. George W. Dow, Lawrence, has been reappointed medical examiner and Dr. Victor A. Reed, Lawrence, has been appointed assistant medical examiner for the Fifth Essex District.——Dr. Joseph Santosuosso, Boston, a member of the common council, has been admitted to the bar and expects to devote himself to the law, dropping his medical practice.——Dr. Anson C. Peckham has resigned as a member of the staff of Union Hospital, Fall River.

NEW JERSEY.

Society Meetings.—The Clinical Society of the Oranges was recently organized, with six charter members, for the study of therapeutics, clinical medicine and surgery. Dr. Leonard H. Smith, East Orange, was elected president, and Dr. Charles W. Buvinger, East Orange, secretary-treasurer.——Middlesex has organized what is said to be the first county District-School Physician's Association in the United States, of which Dr. Henry D. Van Zandt, Jamesburg, has been elected temporary chairman, and Dr. Edwin I. Cronk, New Brunswick, temporary secretary.——The annual meeting of the Ocean County Medical Society was held recently in Lakewood, when Dr. William G. Schauffler, Lakewood, was elected president; Dr. Otto C. Thompson, Cassville, vice-president; Dr. Alexander M. Heron, Lakewood, secretary; Dr. Irwin H. Hance, Lakewood, treasurer, and Dr. Vanderhoef M. Disbrow, Lakewood, delegate to the state medical society.——At a meeting of the Tri-County Medical Society, comprising the counties of Salem, Gloucester and Cumberland, held in Bridgeton, October 28, the following officers were elected: President, Dr. Henry B. Diverty, Woodbury; vice-presidents, Drs. Richard M. A. Davis, Salem, and Walter P.Glendon, Cedarville, and secretary-treasurer, Dr. George E. Reading, Woodbury.——The tenth annual meeting of the Tri-County Medical Association, comprising the counties of Morris, Sussex and Warren, was held in Washington, October 13, when the following officers were elected: President, Dr. Jackson B. Pellett, Hamburg; vice-presidents, Drs. James Douglas, Morristown, and James M. Reese, Phillipsburg; secretary, Dr. Charles B. Smith, Washington; treasurer, Dr. Frederick W. Flagge, Rockaway; and executive board, Drs. Bruno Hood, Newton, Stephen Pierson, Morristown, and Frank W. Curtis, Stewartsville.——At the annual meeting of the Washington Medical Society, Dr. Charles B. Smith was elected president; Dr. Frank P. McKinstrey, vice-president; Dr. Thomas S. Dedrich, secretary; Dr. George C. Young, corresponding secretary; and Dr. Charles M. Williams, treasurer.——The Practitioners' Society of East Monmouth, at its annual meeting held in Redbank, elected Dr. Joseph T. Welch, president; Dr. George H. Baker, vice-president; Dr. Edward M. Beach, secretary; and Dr. William K. Campbell, treasurer, all of Long Branch.

NEW YORK.

Hospital Bed Endowed.—Mrs. Russell Sage has completed an endowment of $5,000 for a bed in the Nassau Hospital at Mineola, L. I., in memory of a friend.

Another X-Ray Victim.—Dr. Fred D. Andrew, Rochester, radiologist of the Rochester City Hospital, was obliged to have his left hand amputated December 4, on account of disease due to frequent exposure to the *x*-ray.

Personal.—Dr. Warren B. Andrews, Newburgh, has resigned as physician of the City and Town Home and of the Children's Home.——Dr. Don M. Hooks, Binghamton, has been appointed coroner of Broome county.——Dr. William Hollinger, Newburgh, was thrown from a carriage in a runaway accident, November 19, but escaped serious injury.

No Fear of Milk Famine.—Although the milk supply has been curtailed on account of quarantining cattle afflicted with the foot and mouth disease there is no immediate danger of a milk famine. In the opinion of the health board officials there is no danger of the milk supply becoming infected from this source. Inspectors are keeping close watch and call for the immediate killing and burning of all cattle having the disease, and it is believed that the disease will be quickly exterminated. The slaughter of infected animals was begun November 21 in thirteen localities in the western part of the state. Even shipments coming to New York City under bond, consigned to foreign ports, have been held up and in some cases the government has ordered the killing of cattle.

To Safeguard Medical Research.—The Medical Society of the State of New York has issued the following letter to the practitioners of medicine of the State of New York:

> The Society for the Prevention of Abuse in Animal Experimentation last year caused to be introduced into the Legislature of this State a bill seriously restricting experiments on living animals. The above named society now enters the field again and proposes another bill of the same general character as that of last year. The Medical Society of the State of ——————, through its committees on legislation and experimental medicine, successfully opposed the passage of last year's measure. Acting under the resolution referring to animal experimentation, which was passed at the last annual meeting of the state society, its committees on legislation and experimental medicine will oppose the passage of the proposed bill. We, therefore, urge all members of the medical profession to disapprove the measure and on its introduction into the legislature, to work in all legitimate ways for its defeat. Specific objections to it will be presented later.

The letter is signed by Drs. Frank Van Fleet, chairman of the Committee on Legislation; Joseph D. Bryant, chairman of the Committee on Experimental Medicine; and John G. Curtis, secretary of the Committee on Experimental Medicine.

New York City.

Personal.—Dr. Charles L. Dana returned from Europe November 30.——Dr. Rufus I. Cole, Johns Hopkins Medical School, Baltimore, has been appointed director of the hospital of the Rockefeller Institute for Medical Research and Dr. Christian A. Herter, physician to the hospital.——Dr. S. Irving L. Roome, Stapleton, is said to be in a critical condition in the S. R. Smith Infirmary, from the effects of an overdose of morphin.

Brooklyn's Jewish Hospital.—This hospital, which was opened in December, 1906, has had during the past year 2,720 applicants for admission, which is an increase of 60 per cent. over the previous year. The dispensary consultations numbered 19,152, an increase of 61.5 per cent. It was stated that two new wings were needed and that the training school has grown so rapidly as to make additional equipment imperative. The hospital is entirely supported by subscription.

The Red Cross and Tuberculosis.—At the annual meeting of the New York branch of the American National Red Cross it was announced that the camp at Schenectady would be reopened in the spring. The camp which is to be opened in the roof of the Vanderbilt Clinic has received $5,000. The clinic has fitted up the roof at a cost of $10,000 and will furnish the physicians. When this camp is fully equipped it will care for more than one hundred patients. Christmas stamps are being sold to support this work. The stamps were recently pictured and described in The Journal.

The Dam Builders' Model Camp.—Frequently in doing the work on the conduits for the water supply of New York City the camps for the workers have been a menace to the health of the community, but in building the dam near Esopus, which is to set back the waters of the Esopus and form the great Ashokan reservoir to furnish the future water supply of New York City, a model camp has been established. Camp City is a camp in name only, being equipped with sewers, water mains, a modern sewage disposal camp and many up-to-date educational advantages both for children and adults.

Proposal to Abet Charity Abuse.—There is a rule at Bellevue and the Allied Hospitals which makes it permissible to charge a patient who has in his possession more than $50 when he is admitted, $1.50 a day. Coroner Harburger says that this is confiscation of other people's money and is contrary to the provisions of the hospital charter. In consonance with this view he has prepared a bill which will be introduced at the coming session of the legislature in Albany to the effect that all patients who reside in the City of New York and are admitted for treatment to Bellevue and Allied Hospitals of the City of New York shall be admitted free of all charge, and if the patients have money in their possession, none of it shall be taken from them and charged to treatment. Dr. Brannan, president of the board of trustees of Bellevue and Allied Hospitals, states that the rule to which Dr. Harburger objected, had been adopted on the advice of the corporation counsel, in order to prevent persons who were able to pay from obtaining free treatment.

Buffalo.

Fee for Reporting Contagious Diseases.—The State Commissioner of Health is said to have made a ruling that physicians reporting cases of contagious diseases are entitled to a fee of $1 for each case reported.

Roswell Park's Jubilee.—This year marks the twenty-fifth anniversary of Dr. Roswell Park's professorship in the University of Buffalo. In commemoration of the event a dinner was tendered him December 7, in the Hotel Iroquois, by the medical profession of Buffalo, as an expression of their appreciation of Dr. Park as a teacher and of his ability as a surgeon.

Personal.—Dr. Dewitt G. Wilcox is about to remove to Boston.——Dr. Francis E. Fronczak, assistant health commissioner, and also commissioner of health in the town of Cheektowaga, was assaulted by some resentful tenants whose houses he was obliged to quarantine. He swore out warrants for six of his assailants who were tried before a justice of the peace and sentenced each to thirty days in the penitentiary without option of fine.

OHIO.

Library for County Physicians.—Quarters have been secured for the library of the Richland County Medical Society in the Municipal Library Building, Mansfield, where medical books and journals are to be kept in easy access of physicians and out of the reach of the general public.

Personal.—Dr. John F. Jones, Columbus, has succeeded as jail physician, Dr. John F. Hane, recently chosen coroner of Franklin county.——Dr. Charles A. Stephens, Helena, sustained serious injuries November 20, by the overturning of his automobile.——Dr. W. B. Tracy, Newark, has been appointed assistant physician at the Athens State Hospital for the Insane.——Dr. David G. Sanor has been chosen chief of staff of Mercy Hospital, Columbus, vice Dr. Schueller, resigned.——Dr. and Mrs. Hanson P. Shelton, Georgetown, sailed for Europe, November 28.

Cincinnati.

Non-Partisan Board of Health.—The Cincinnati Academy of Medicine, the Ministerial Alliance, the City Club, and associated organizations, have endorsed a resolution to establish a non-partisan board of health separate from the board of public service, and to be appointed by the mayor.

Personal.—Dr. Charles A. L. Reed has had conferred on him the cross of the Legion of Honor of France.——Dr. Samuel E. Allen was thrown from his buggy in a collision with an automobile recently, and was seriously injured.——Dr. Robert Mussey, interne in the City Hospital, was operated on November 19, for appendicitis.——Dr. Charles L. Bonifield was struck by his own automobile several weeks ago and sustained a fracture of the fibula.

Defective School Children Segregated.—One hundred and fifty children of the public schools of Cincinnati who are four years or more behind on their studies, have been segregated in one school and are to be examined by the following corps of specialists who have volunteered their services: Diseases of the eye—Drs. Frank B. Cross, Walter Forchheimer, William H. Campbell, Wylie McL. Ayres, Louis Stricker, and Albert E. Hussey; diseases of the ear—Drs. Walter E. Murphy, Samuel Iglauer, William Mithoefer, Clayton B. Conwell, and William C. Harris; nervous diseases—Drs. David I. Wolfstein and Philip Zenner. Dr. Marian Schaar will investigate the environment of the children outside of school hours and Drs. Mark A. Brown and Louis Maloney will make such physical examination as may be required.

PENNSYLVANIA.

School Surrenders Charter.—A petition has been filed by the stockholders of the Western Pennsylvania Medical College, Pittsburg, asking permission to surrender all powers contained in its charter and for a dissolution of its corporation. The petition states that the corporation has sold and conveyed to the University of Pittsburg all its real estate, equipment and physical assets.

Cattle Disease No Longer a Menace.—The State Live Stock Sanitary Board, November 25, received reports which indicate that the epidemic of foot and mouth disease among cattle is under control. It has been recently learned that many of the alleged cases reported to the veterinary officers have. been erroneous. The state health commissioner has sent a letter to each of his county medical inspectors, 733 health officers, and other field men, instructing them to give all aid in their power in the fight against the disease.

Personal.—Dr. Harry M. Wasley has been appointed director of the State Dispensary for Tuberculosis at Shenandoah.——Dr. William P. Painter, Darby, fell down stairs at his home, November 25, and is still confined to his bed.——Dr. William T. Davis, first assistant at the State Hospital, Fountain Springs, is reported to be seriously ill at that institution.——Dr. H. Herbert Herbst has been elected mayor of Allentown.——Dr. Frank G. Bryant, Scranton, has been appointed special medical inspector in charge of the scarlet fever situation.——Dr. James L. Jamison has been made health officer of Wrightsville.——Dr. and Mrs. Claude W. McKee, Scottdale, sailed for Europe November 28.

Typhoid Fever in Reading.—Typhoid fever is still on the increase in Reading. On December 4, 62 new cases were reported, and on December 5 27, thus making a total reported thus far of 529. The State Health Commissioner has been asked by the local Board of Health to take charge of the situation. Dr. Dixon has already responded by sending his chief sanitary engineer, with twenty-five trained inspectors and also chief state medical inspector, Dr. Arthur B. Moulton, with a corps of nurses, under the supervision of Miss Alice M. O'Halleran. The water and milk supply of the city have been diligently investigated by the sanitary inspectors, but thus far the source of contagion has not been discovered. All houses containing typhoid fever patients are placarded, and notices asking the residents to boil all drinking water, have been distributed throughout the city.

Philadelphia.

Entire Resident Staff Dismissed.—Troubles which have persisted for nearly a year at St. Agnes Hospital are said to have culminated, December 1, in the dismissal of the entire resident staff for "inefficiency and insubordination."

Personal.—Dr. H. Conrad Egly, former assistant surgeon of the Mexican Central Railroad at Aguas Calientes, Mexico, has been transferred to take charge of the emergency car at the Culican front of the C. R. Y. & P. Railroad, Sinaloa.——Dr. S. Ira McDowell sailed for England November 28.

Gift to Hospital.—The hospital of the Woman's Medical College of Philadelphia has recently received as a gift from several individuals the furnishing of five private rooms. In addition to this, the hospital received, as the result of a fraternity entertainment, $310, which will be used in furnishing two new rooms in the hospital, the surplus being employed as the management may see fit.

SOUTH CAROLINA.

Physician Not Guilty.—In the case of Dr. William L. Linder, Union, charged with shooting a negress who had previously made an attempt on his life last November, the jury returned a verdict of not guilty, holding that the shooting was in self-defense.

Medical College Opens.—The Medical College of the State of South Carolina, Charleston, opened October 1, with the largest enrolment in the history of the institution. In the absence of Dr. George Wilson, dean of the college, Dr. Lane

Mullally welcomed the students. Dr. Charles M. Reese, the new professor of general surgery, also addressed the students. The college has spent about $3,500 in the enlargement of the laboratory, which has nearly trebled its floor space.

Conference on Pellagra.—On October 29, a conference on pellagra was held at the State Hospital for the Insane, Columbia, at which a number of physicians from North Carolina, Georgia and South Carolina were present. A large proportion of the papers read were devoted to the causation of pellagra, the maize theory and the germ theory each being considered. The board of regents of the state hospital passed resolutions directing the attention of the state board of health to the necessity of placing the whole problem of pellagra in the hands of expert pathologists and bacteriologists. A committee was appointed to arrange for the publication and distribution of the transactions of the conference, and a second committee to decide whether or not it is advisable to form a society in the South Atlantic and Gulf States for the study of tropical diseases.

TENNESSEE.

New Clinic Opened.—Tennessee Medical College, Knoxville, has established a free clinic, to be opened daily from 1:30 to 3 p. m. A general reception room has been arranged, and also a number of smaller rooms for the treatment of the different classes of diseases.

Tuberculosis Dispensary.—Arrangements have been made by the Centennial Club of Nashville to establish a free dispensary for indigent consumptives. A room is to be made ready on the third floor of the building occupied by the health department, where these patients may obtain medicine, advice and aid.

Commencement Exercises.—The commencement exercises of the Medical Department of the University of the South, Sewanee, were held October 27, when a class of 36 was graduated. Dr. John S. Cain, dean of the medical department, made the doctorate address, and the diplomas were awarded by the vice-chancellor, B. Walton Wiggins.

Personal.—The following physicians have been elected directors of the Knoxville Association for the Prevention and Relief of Tuberculosis: Benjamin D. Bosworth, Henry P. Coile, Albert G. Kern and Ernest R. Zemp.——Dr. John Overton has succeeded Dr. E. E. Reismann, resigned, as house surgeon of the Nashville City Hospital——Dr. Benjamin F. Turner, Memphis, has been appointed a member of the city park commission.——Dr. H. M. Boswell, interne in the Nashville City Hospital, has resigned.

WASHINGTON.

Compulsory Vaccination.—The enforcement of the order of the school board that all children should be vaccinated before November 9, caused 1,647 unvaccinated children on that day to be sent home from the public schools of Seattle.

Mulcted for Unauthorized Autopsy.—The jury in the case of Joseph Beeman against Dr. Marion F. Setters, Spokane, charged with performing an illegal autopsy January 4 last, is said to have returned a verdict for the plaintiff, allowing him $1,000 damages. The amount of damages claimed was $10,000.

Personal.—Dr. Robert L. Maloney has been appointed health officer of Anacortes, vice Dr. Frederic S. Sandborg.——Dr. A. Jefferson Nelson has been appointed assistant medical inspector of Ballard, vice Dr. H. P. Heliker, resigned.——Dr. Ernest L. Bickford, Seattle, has returned after a year abroad.——Dr. Henry J. Fleischer, Seattle, has been taken to the Portland Sanatorium for treatment.——Dr. John Nywening is announced as the next health officer of North Yakima.

WISCONSIN.

Epidemic Diseases.—On account of an epidemic of smallpox, the churches and schools of Manitowoc were closed November 22 and fifty houses are under quarantine.——The schools of Green Bay were closed November 25, on account of the prevalence of diphtheria. It is estimated that there are now more than 25 cases in the city.

Personal.—Dr. E. Clayton Pratt, Milwaukee, has been appointed assistant surgeon to the Wisconsin Veterans' Home.——Dr. Charles L. Sonnemann, Milwaukee, was held up, November 12, and robbed of a gold watch.——Dr. Maurice D. Bird has succeeded Dr. George F. Colter as president of the Menominee River Hospital, Marinette.——Dr. Edward Spegelberg, house physician at the Emergency Hospital, Milwaukee, has resigned and will enter private practice in Wausau.——Dr. Ulysses M. Horswell, Wausaukee, has succeeded Dr. William R. Bell, resigned as health officer. After a course of study at Rochester, Minn., Dr. Bell expects to go abroad for two years or more.

GENERAL NEWS AND COMMENT.

Surgeons and Gynecologists to Meet.—The twenty-fourth annual meeting of the Southern Surgical and Gynecological Association will be held in the Planters' Hotel, St. Louis, December 15, 16 and 17, under the presidency of Dr. Frederick W. Parham, New Orleans. Dr. John Young Brown is chairman of the committee on arrangements.

Sanatorium for Printers in Arizona.—The International Typographical Union, which maintains a home for sick and aged printers in Colorado, is about to establish a tuberculosis tent sanatorium for its members in Arizona.. At the recent meeting of the union, $10,000 was appropriated for the establishment of the tent sanatorium, not more than one-half of which is to be used for construction of headquarters.

Society Meeting.—At the annual meeting of the Ohio Valley Medical Association, held at French Lick Springs, Ind., November 11, 12 and 13, the following officers were elected: President, Dr. Curran Pope, Louisville; vice-presidents, Drs. Albert E. Sterne, Indianapolis; G. Frank Lydston, Chicago; and Earl Harlan, Cincinnati; and secretary-treasurer, Dr. Benjamin L. W. Floyd, Evansville, Ind. Evansville was selected as the place for the next annual meeting.

Gorgas Starts for Chile.—Col. William C. Gorgas, president of the Isthmian Canal Commission, sailed for Valparaiso, Chile, from La Boca, November 23. Colonel Gorgas has been appointed one of the ten delegates from the United States to the Pan-American Scientific Congress to meet at Santiago, Chile, Christmas Day, and will present a paper on "The Control of Yellow Fever in the Tropics." Dr. Pedro Obarrio, superintendent of Santo Tonas Hospital, Panama, delegate from the Republic of Panama, sailed on the same steamer.

Cholera in the Philippines.—During the week ended September 26, there were 314 cases of cholera, with 184 deaths, in the city of Manila, and during the same week 1,122 cases, with 745 deaths, were reported from the provinces. During the succeeding week, 67 cases of cholera and 33 deaths were reported from Manila and 1,666 cases, with 977 deaths, from the provinces.——On account of two cases of cholera having occurred on the U. S. Army transport *Sheridan*, the steamer was disinfected and held in quarantine for seven days.

Plague Prevention Work.—Passed Assistant Surgeon Rupert Blue, P. H. and M.-H. Service, reports that the last case of plague in San Francisco was reported January 30; that during the week ended November 14, 11 sick and 103 dead were inspected, no case of plague being found; and that 1,352 rats were examined bacteriologically, no plague-infected rats being found. At Oakland and Port Richmond for the previous week no plague-infected rats were found. The reports from Los Angeles, Cal., and Seattle, Wash., regarding the examination of rats for plague infection, produce similar negative results.

Antityphoid Immunization Approved for Army.—The board of medical scientists, composed of Surgeon-General Robert M. O'Reilly, Drs. Victor C. Vaughan, Ann Arbor, William T. Councilman, Boston, John H. Musser, Philadelphia, Alexander Lambert and Simon Flexner, New York City, and William S. Thayer, Baltimore, which met at the War Department, December 7, and considered the advisability of immunizing soldiers against typhoid fever by vaccination, recommended that the method be adopted in the United States Army, and issued the following statement: "The board is convinced of the usefulness and harmlessness of antityphoid vaccination, and recommends that the practice of voluntary vaccination be introduced in the Army of the United States as a practicable means of diminishing the extent of typhoid fever."

The Canal Zone.—The report of the sanitary department of the Isthmian Canal Commission for September shows a sick rate of 25.09 per 1,000, which compares favorably with the rate of 27.28 for 1907, and of 37.74 for 1906, and is lower than the rate for August, which was 25.24 per 1,000. This means that comparing September, 1908, with September, 1906, there has been a saving in the working force of 16.200 days of illness. The death rates show a similar improvement. In September, 1905, the rate was 33.52 per 1,000; in September, 1906, 57.34 per 1,000; in September, 1907, 28.63 per 1,000; and in September, 1908, 12.78 per 1,000.——Of the 19 deaths of whites during the month, 12 were due to violence, while of the 29 deaths among negroes, 5 were due to this cause.

The death rate for white employés for September was at the annual rate of 18.43 per 1,000, and that for colored workmen, 10.65. There has been a marked decrease in the cases of malaria for September. In September, 1907, there wer 1,811 cases of malaria among employés; in August, 1908, 1,525; and in September, 1,410.

Newspaper Publishes Retraction.—The suit brought by Dr. S. Adolphus Knopf, New York City, against the Philadelphia *North American*, which on May 7, 1907, misquoted an address delivered by Dr. Knopf, in which he was erroneously credited with saying that when a patient is dying of tuberculosis the physician should administer morphin in large doses so "that he may go painlessly and quickly," has been settled satisfactorily by a compromise, and in the *North American*, November 29, a retraction was published, and Dr. Knopf's statement, which had been misquoted, was correctly made as follows: "When we are in the presence of a dying consumptive, who is suffering, I believe it is our sacred duty to give him morphin to relieve his pains and make him comfortable, and let him die easy." It is understood that substantial damages have been paid Dr. Knopf, as well as reimbursement for his expenses in the suit, which has now been dropped, and also that the sum received for damages has been turned over by Dr. Knopf to the National Association for the Study and Prevention of Tuberculosis, to be used for the benefit of the consumptive poor, under the direction of the directors of the association. Dr. Knopf's friends are congratulating him on having pushed the suit to this satisfactory settlement, especially in view of the fact that the result indicates that physicians who are grossly misquoted, maliciously or otherwise, in the public press, may look for satisfaction in view of the injury thereby inflicted.

FOREIGN NEWS.

Fourth International Congress for Medical Electrology and Radiology.—The three preceding congresses were held at Paris in 1900, Berne in 1903 and Milan in 1906, and the fourth at Amsterdam in September, 1908. The permanent international committee includes C. Beck of New York, S. Leduc of Nantes, Bozzolo of Turin and Albers Schönberg of Hamburg, with Tripier of Paris as president and Oudin of Paris, Schiff of Vienna and Wertheim Salomonson as vice-presidents. The latter was president of the congress. The recent developments in precision registration of the movements of the heart by the string galvanometer rendered very timely Boruttau's address on the "Current of Action," the electric currents emanating from the heart muscle in action being the means by which the movements of the heart muscle are registered on the string galvanometer. Roentgen diagnosis showed great progress achieved since the previous meeting. The fulguration or lightning treatment of cancer was one of the interesting features of the congress. The exhibit of skiagrams, especially the stereoscopic Roentgen pictures exhibited, testified to the great strides in Roentgen diagnosis in the last three years, although the imperfections of all the measures for dosage of the rays at present in vogue were denounced by various speakers.

LONDON LETTER.

(From Our Regular Correspondent.)

LONDON, Nov. 28, 1908.

Compensation for Industrial Diseases.

The second report of the departmental committee on compensation for industrial diseases has been issued. It deals mainly with glassworkers' cataract and telegraphists' cramp. Dr. Legge, medical inspector of factories, has made an exhaustive inquiry with a view to determining the incidence of the former disease among glass workers. He examined the eyes of 513 persons exposed to the furnace glare in glassworks. He found that all classes of workers so exposed appear to suffer and that between the age of 30 and 40 opacities of one kind and another in the lens were about five times as frequent as in those engaged in other work; between 41 and 50, twice as frequent; and after 50, more than three times as frequent. Approaching the problem from the point of view of disablement comparison was made between 10,549 members of the Hearts of Oak Benefit Society in receipt of reduced sick allowance and 186 superannuated members of glass bottle societies. The percentage of cataract in the former was only .78, but in the latter it was 22.6. For many years the efficiency of the workman is little affected. Hence the difficulty of legislating for compensation. During the period of efficiency the workman can not claim that the disease has incapacitated him, and if the law required that half wages should be paid during the rest of the life of an artisan who had lost skill through cataract, employers might insist on a medical examination of the eyes and no employer would engage a man who showed incipient traces of the malady. Therefore, it is concluded that if the disease were scheduled like the other industrial diseases in the workmen's compensation act, the workpeople in the glass trade would lose more than they would gain. The committee recommend that when removal of the cataract becomes necessary, compensation should be made payable for a period not exceeding six months.

With regard to telegraphists' cramp, a proportion of those who use the Morse key instrument are found to be affected. The symptoms are pain, not confined to one group of muscles, spasm, tremor and weakness. The committee recommend that this disease should be considered as specific to the employment and subject to compensation.

Anglo-German Agreement as to Sleeping Sickness.

With view to the more effectual combating of sleeping sickness in the British and German possessions in East Africa, the two governments have agreed to take such steps as are practicable to prevent affected natives from passing into each other's territories. All such natives will be detained or segregated in the territory in which they are found. All natives will be prevented as far as possible from crossing from one territory into areas in the other which are declared infected. Segregation camps will be established at adjacent points of the boundary for the detention and care of affected natives. Crocodiles and other animals suspected of being a source of aliment to the glossina palpalis will be destroyed.

Cooperation Between Ministers and Physicians.

The movement which originated in Emmanuel Church, Boston, has spread to this country. The Pan-American Congress, which was held last summer, was attended, for the first time in the history of the Church of England, by delegates from all her dioceses and from the dioceses of all the churches in the world in communion with her. Church problems of all sorts were discussed, and at one of the meetings it was suggested that the clergy should study psychology in its relation to bodily disease. In the report which followed the proposition was submitted that bodily disease is a breach in the harmony of the divine purpose and is caused by want of moral harmony with the divine will. The suggestion was made that restoration of this harmony will often bring with it restoration of health. As a consequence the congress left behind it a heritage in the shape of the "Church and Medical Union," which was formed to promote cooperation of ministers and doctors in the healing of the sick. It has been alleged that the new movement is only a variant of what is called Eddyism, but it differs from the latter in not ignoring the physical aspect of disease and the medical profession.

PARIS LETTER.

(From Our Regular Correspondent.)

PARIS, Nov. 26, 1908.

The Nobel Prize.

Although the names of winners of the Nobel prize are always kept secret, some inkling always creeps out beforehand, if only because the winners, being obliged to go to Stockholm for the ceremony of the distribution of the prizes, are informed some months beforehand. It is already certain that the prize in medicine this year will go to Professors Metchnikoff, assistant director of the Pasteur Institute at Paris, and Ehrlich, director of the Institute of Experimental Therapeutics at Frankfort.

Resumption of the Courses of Anatomy at the Paris Medical School.

In view of the obstreperous conduct of the first and second year students, which prevented Professor Nicolas from giving his course (as mentioned in THE JOURNAL, Nov. 12, 1908, li, 1879, and Nov. 30, 1907, xlix, 1853), the dean posted notices at the entrance to the school stating that, if the students had complaints to make it was not through the daily papers that the dean ought to learn them, but through a delegation of those interested, which he was ready to receive. In response to this invitation, the students sent a delegation to express their wishes, among which was the assignment of a cadaver to each five students, instead of to each seven. The committee on instruction in practical anatomy has granted the chief demands of the students. There seems no excuse for continuing the agitation further; but the persons intriguing against Professor Nicolas have not given up. Fortunately, the Corporate Association of Medical Students has intervened. The majority have followed wise counsels, and now all is in order. The students who attend Professor Nicolas' class are less numerous than previously, but now they come to listen to him, while formerly they came to prevent him from speaking.

Deaths.

During the last few days, the medical profession has lost three members in high stations. Dr. Alix Joffroy, clinical professor of mental pathology and of diseases of the brain in the Paris Medical School, died suddenly from angina pectoris, aged 64. He was a modest savant, who had organized a sober and practical course of instruction at the Ste. Anne Asylum, where he had given his lesson the previous Saturday.

Dr. Hamy, one of our most remarkable anthropologists, has just died, aged 66. He took his doctor's degree in 1868, entered the Museum of Natural History of Paris in 1872, and from 1874 to 1887 had charge of numerous missions thence. He founded in 1880 the museum of ethnography of the Trocadero, of which he was curator, and which has made great growth. In 1882 he was named professor of anthropology of the museum, which post he held at his death. He was member of various learned societies—of the Society of Americanists, among others. In 1903 he was chosen associate at large of the Academy of Medicine.

Dr. Felizet, who died at 64, was formerly a surgeon of the hospitals of Paris and secretary general of the Surgical Society. He early began to specialize in surgery for children, and his treatise on "Inguinal Hernia in Children," is an authority on the subject.

BERLIN LETTER.

(From Our Regular Correspondent.)

BERLIN, Nov. 19, 1908.

Mortality from Puerperal Fever.

The puerperal mortality is still very high in Germany; in Prussia alone, in 1906, 3,722 women died of puerperal fever; of every 10,000 women living, 1.97 died, for every 10,000 deliveries about 29 died in childbed. The conditions are, strange to say, more unfavorable in the cities than in the country districts. Proportionately, the condition is most unfavorable in Berlin, where among 10,000 women delivered, 56.48 died in childbed, which is nearly twice the average for the whole of Prussia. These facts have for a long time caused the recognition of the necessity of improvement of the midwife system, as an important factor in the prevention of puerperal mortality. The number of midwives is also too small, especially in rural communities, where they find an insufficient livelihood, and the reliability of the midwives is often not equal to the requirements. Conditions will certainly be improved by the law passed this year in Prussia in regard to remuneration of midwives. The legal regulation of their fees brings the possibility of a more prosperous development for the profession of midwifery. The law establishes three categories of midwives: the "district midwives," on a salary; the midwives who are engaged by the authorities in charge of the indigent to give obstetric assistance to those needing help, and the midwives with independent practice. Moreover, a distinction is made between city and country midwives as their remuneration must be different in the large towns. In order that there may be a sufficient number of district midwives appointed for the rural districts, it is provided that the less well-to-do communities shall be assisted by financial aid from the state. A recent decree states that assistance of this sort shall as a rule be given only in districts that apply a definite part of their income from taxes to the support of midwives, and assure to the district midwife a definite income, either by granting a definite minimum salary, or by fixed supplements which shall reach this minimum sum when added to the income from practice. Also a free provision of instruments, apparatus, means of disinfection. etc.; assurance of compensation for interruption of business in consequence of infectious diseases, and, lastly, a definite provision in case of disability in the line of duty.

Tuberculosis Crusade.

It has been suggested to the Reichstag by some representatives of the national liberal party that the Reichstag shall request the federal government to lay before it as soon as possible a bill which shall extend the campaign against tuberculosis to the classes of the population which have so far been exempted from provision for care, especially by provision for more adequate financial resources and by legal regulations to insure proper disinfection of infected dwellings.

Medical Superintendence of Sanatoria.

Early in October the Prussian minister of education (Kultusminister) published an order involving the principles for the conducting of sanatoria by physicians: A responsible medical superintendent shall be provided for each sanatorium for the general care of the patients and for sanitary measures. In all large public sanatoria there must be a physician appointed to conduct the treatment of the patients, or a physician must be placed at the head of each department. In smaller public institutions, especially in smaller places, the permission may be extended to several or to all physicians to treat the patients referred to the sanatorium by them, or they may be called on for mutual assistance, provided that one physician stands responsible for the hygiene of the house, the training and supervision of the nurses, and other measures necessary for the general care of the patients. All institutions having more than 30 beds are included among the large sanatoria.

Sick Benefit Societies in Berlin.

The last annual municipal report gives information regarding the extent of the industrial insurance in Berlin. According to this the property of the societies amounts to about 17.600,000 marks ($4,224,000). The entire expenditures amounted to 32.700,000 marks ($7,748,000) in contrast to an income of 34,000,000 marks ($8,160,000). This was disbursed as follows: For medical treatment, 3,300,000 marks ($792,000); for medicines, 3,00,000 marks ($720.000); for indemnities to the sick, 11,600,000 marks ($2,784,000). About 3,500.000 marks ($840,000) were paid to the sanatoria for treatment and care. The number of workmen insured was about 730,000. There are 129 of these different industrial insurance societies in Berlin.

Popular and Juvenile Sports.

Following the praiseworthy example of America and England, sports have been fostered to a greater extent in Germany during the last few years, especially among the youth in schools. In this way for some time the introduction of popular and juvenile games has been favored and there are a number of successful results to show in this field. In a large number of communities playgrounds for the schools have been established, partly by the communal authorities and partly by societies. In a large number of cases the drill grounds have been placed at the disposal of the schools for this purpose by the military authorities. In about 500 grade and high schools a playtime obligatory on all pupils has been introduced in addition to the ordinary hours for gymnastics. In a large number of other schools such a regular playtime is optional. Also in a number of schools a regular system of outdoor sports is organized for the vacations. In a smaller way instruction in swimming and sport on the ice is favored in the schools. From all these measures it may be hoped that the growing youth will no longer, as has often formerly been the case, restrict its ambitions exclusively to mental training, but will also seek in addition a sufficient physical development so that the old proverb, "*Mens sana in corpore sano,*" may attain a higher significance for the youth of Germany.

VIENNA LETTER.

(From Our Regular Correspondent.)

VIENNA, Nov. 19, 1908.

Scarcity of Water in Vienna.

The remarkable weather conditions prevailing over central Europe since about July have caused an unprecedented fall in the daily water supply of Vienna. For a time much alarm was felt. Since the completion, in 1873, of the waterworks system, which usually brings over 26,000,000 gallons of pure, fresh mountain water daily to Vienna, typhoid fever has been practically limited to sporadic cases. [illegible] has reduced the daily flow of water to below [illegible] and the pipes supplying houses have had to be partially closed, causing much discomfort. There is, however, no danger to the public health, as all other sources of water were made useless many years ago.

Prophylaxis Against Infectious Disease.

A bill is proposed to require notification of the following diseases: Asiatic cholera, plague, smallpox, black water fever, typhoid fever, relapsing fever, leprosy, yellow fever, dysentery, scarlet fever, diphtheria, epidemic cerebrospinal meningitis, anthrax, glanders, hydrophobia and bites of animals suspected of rabies. The physician in the first place, then the midwife, nurse, owner of the hotel, inn or hostelry, teacher, landlord and coroner, are responsible for returning notification of any cases of such diseases coming to their knowledge. Any coercive measure is allowed by the law if the public health is endangered. Due compensation will be made for furniture or other property spoiled by disinfection, which is free of charge. Physicians at work during an epidemic are to receive a pension if they are incapacitated by the disease; their widows will be pensioned if death is caused thereby. The bill has no special provisions for vaccination, as a bill on that subject is to be brought in soon.

Pharmacology

THE INTERNATIONAL INSTITUTE.

Another Consumption Cure and Its Founder.

We have received from various sources inquiries relative to a Chicago concern known as the International Institute for the Treatment of Tuberculosis. Physicians have written saying that their patients have been approached by the agents of this "institute," and that the extravagance of the claims made for the "treatment" are equaled only by the exorbitance of the charges.

When we began to investigate the "International Institute" we found at the outset that its founder and ruling spirit and the "inventor" of its "treatment" was one Orlando Edgar Miller—an individual of whom we shall have something to say later.

THE TREATMENT.

In the booklet issued by the "Institute" we are informed that "this long looked for treatment and cure for tuberculosis is a combination of purely vegetable substances [which reminds one of the late lamented Lydia Pinkham] which, administered hypodermically, produces three effects on the system, viz.: Sleep, Relaxation, Elimination."

And there we have it. Not, of course, that we know much more about it now than we did before, but we know as much as a physician's limited knowledge of drugs makes it safe for him to know. For in the same booklet the reason given for not divulging the identity of this marvelous medicament is that physicians are "unacquainted with the actions of one of the drugs which we use and which is of recent origin, and is probably not used for any purpose by one physician in a thousand." Therefore, to conserve the interest of the patient's health—and incidentally the "institute's" finances—the world is going to be kept in ignorance of this, the great and only cure for tuberculosis. However, "when a sufficient number of physicians have acknowledged the results obtained, then the formula and methods of administration will be given to the medical profession." Meantime, bring along your phthisical patients and Orlando Edgar Miller, Ph.D., late professor of eugenics and sanitary science, late "dope" curist, late rupture curist, late numerous other things, will cure them, almost while you wait—for a consideration.

Incidental to the "hypodermics" there is rest and forced feeding and it would indeed be strange if some tuberculous patients when put to bed and given an abundance of nourishing food did not feel improved. Add to this, also, the psychic stimulation produced by the wildly extravagant promises of health, and we find sufficient reasons to account for any testimonials that may be obtained from patients in the early stages of this or any other "treatment."

WHAT THE "TREATMENT" COSTS.

When a prospective patient writes for information regarding the "cure" and its application, he is told:

> ". . . it would be impossible for this scientific treatment to be given anywhere else than in our hospital here in Chicago, or our sanitarium in Wisconsin."

Of the expenses to be incurred he is informed:

> "Our minimum charges are $25.00 per week as hospital expenses, and $250.00 as treatment fee. Of course, where cases are very seriously complicated, the price runs somewhat higher. Most persons in taking our treatment pay the $350.00 in advance. . ."

WHAT DOES IT PROMISE?

One may wonder *from* what class of patients this "Institute" will accept the minimum treatment-fee of $250. This question is answered in the pamphlet which is sent out to prospective victims:

> "QUESTION: What kind of cases do you accept?"
> "ANSWER: Any case with sufficient vitality to turn over in bed."

Evidently so long as the patient is not positively moribund, his money is acceptable. And what may the patient expect if he pays his money and takes the "treatment"?

> "QUESTION: What class of patients may hope for recovery?"
> "ANSWER: All may expect ultimate recovery excepting those who have serious complications below the diaphragm."

This "purely vegetable," "hypodermatic," "eliminative" treatment, therefore, ceases to be effective below the diaphragm. What such statements mean to the public—and what doubtless they are intended to mean—is, that any sufferer from laryngeal or pulmonary tuberculosis, no matter how near to death's door he may be, "may expect ultimate recovery" if he possesses money enough to take the O. E. Miller "treatment" and vitality enough "to turn over in bed."

THE INSTITUTE'S PERSONNEL.

The stationery of the International Institute has an imposing list of officers of the concern and of the members of its "medical department." In addition to having a Ph.D. (O. E. Miller) for president, it has an A.M. for treasurer, an LL.D. for secretary, while its counsel is no less a person than an ex-senator of the United States. As is the case with so many of these "institutes" the head of the concern is not a physician, and has, therefore, to hire men who are, to do his work. This, unfortunately, seems to have been easy of accomplishment, as we find the names of no fewer than seven physicians—four of Chicago, one of Milwaukee, and two of Indianapolis on the stationery as members of the "medical department"—to say nothing of an osteopath.

One of the Indianapolis members appears to have been drumming up trade for the "Institute," as we have received from physicians copies of a pamphlet which is being distributed, and whose title page reads as follows:

> THE TREATMENT OF TUBERCULOSIS.
> by
> JOHN T. SCOTT, M.D.
> INDIANAPOLIS, IND.
>
> Presented at the International Congress of Tuberculosis.
>
> WASHINGTON, D. C., OCTOBER, 1908.

Needless to say, the treatment referred to is that given by the International Institute. As for the paper being "Presented at the International Congress of [on?] Tuberculosis." the secretary-general of the congress informs us that the paper "was not on the program of the Congress and was not read in any of the sections. I have never seen this paper before."

That the concern intends to extend its operations is evidenced from the fact that the attempt has already been made. In the local newspaper report of the attempt to establish a "sanitarium" at Rome, Georgia, we read that the International Institute already has "a large sanitarium in Chicago," and that branches already "have been established in Wisconsin, Minnesota, Michigan and other localities are being selected."

O. E. MILLER AND HIS RECORD.

When any new treatment, for a well-nigh incurable disease, is advanced, physicians who are careful of their patient's safety and well-being first wish to know something about the individual responsible for it. Should this treatment be given to the world, not through the reputable channels of conservative medical journals, but by means of methods adopted by irregulars the world over, sensible physicians are still more insistent on examining the antecedents of those who originate it. Should such examination show that the "treatment" is essentially secret, that it is put on the market as a commercial proposition, and that it is originated by one who has no claim to medical training, the medical profession is more than justified in looking on such a proposition with suspicion. Should it be found, moreover, that the individual fathering the project is a man who has devoted a large part of his life to such concerns as "rupture cures" and fake sanitariums, and has at various times been arrested and has served at least some time in a federal prison—should all these things come to light, any sensible physician would naturally and rightly assume the attitude usually credited to Missourians—Show me!

For these reasons we give our readers some information regarding the president and originator of the International Institute—O. E. Miller, Ph.D.—which was incidentally acquired in our investigations of the "institute" itself.

According to the Chicago *Tribune*, June 11, 1902, Miller has been grocer, lawyer, newspaper editor, president of a Y. M. C. A., school superintendent, proprietor of a "rupture cure," and president of a "dope" sanitarium. He is now president of the "consumption cure" institute. Mr. Miller's long suit is his "piety." Throughout all the vicissitudes of his checkered career, though he has with remarkable versatility jumped from a "rupture cured or no pay" business to curing drug addicts "in from 6 to 8 days," yet he has ever demonstrated the value of religion as a financial asset.

THE O. E. MILLER "RUPTURE CURE."

In the early '90's Miller was running a "rupture cure" concern in Denver. So successful was this "cure"—in relieving the ruptured of their money—that within six years Miller claims to have done a business of over twenty million dollars. Branches of the concern were to be found in nearly every large city in the United States.

While pursuing this delectable business Miller was president of the "Professional Men's Debating Society" of the Y. M. C. A.; he also organized a large bible class and was carrying on what was known as the Cooperative Bible Union.

MILLER GOES TO PRISON.

While thus engaged in saving souls and curing rupture, Miller was convicted as an accessory to the misapplication of national banking funds and was sentenced to ten years in the federal prison at Fort Leavenworth, Kansas. After serving nearly two years of the sentence he was released on bond on the order of the Circuit Court of Appeals; the case then seems to have been dropped. Even in prison Miller's piety had to find expression and he established a Sunday school of which he was the leader and in addition he had charge of the music in the chapel on Sundays.

MILLER'S DYSPEPSIA "CURE" AND THE "ST. LUKE'S SOCIETY."

In 1898 O. E. Miller came to Chicago and, according to the *Tribune*, exploited a "medicated sand" treatment for stomach trouble and as a "sure cure for dyspepsia." In the meantime, he had, to use his own words, "come into possession of a very wonderful formula for the treatment of morphin, opium, tobacco and liquor habits." This was too good an opportunity to miss and he at once organized "a religious and philanthropic movement" known as the St. Luke's Society. This concern advertised that the patient would be put "into a normal condition" in "from six to eight days, in all cases of drug addictions where tobacco is not used. . . . Some forms of nervous affections require two weeks' time."

While a "philanthropic" movement, it did not give sufficient indications of being a charitable institution to warrant the Chicago Department of Health granting a license. The business was evidently a paying one, however, for Miller kept moving into more expensive and commodious quarters until finally he rented the old Hotel Woodruff as a "sanitarium." Then, when he had 150 persons in the building, came a fire in which thirteen inmates perished.

MILLER'S "UNIVERSITY AND SANITARIUM."

Miller's next venture was a combination *"university"* and "sanitarium," which he floated at Glen Ellyn, a suburb of Chicago. This institution was known as the "Ruskin University," though from the number of Millers in the published list of faculty members and officers, "Miller University" would have been more appropriate.

George McA. Miller, President; Ethics and Physiology.
Adalind D. Miller, Vice-President; English and Literature.
Orlando E. Miller, General Secretary; Eugenics and Sanitary Science.
Hamilton J. Miller, Treasurer.
Admer D. Miller, Mathematics.
Zoa L. Miller, Art.
Aurora L. Miller, Oratory.

Whether any or all of these numerous Millers were blood relations to Orlando E., or whether the combination was a mere nomenclatorial coincidence, we can not say.

AN ALL-EMBRACING COLLEGE OF MEDICINE.

The "university" very naturally had a college of medicine, and there was nothing narrow or hide-bound about it. According to the prospectus issued at the time:

> "Every student in the medical department of Ruskin University will receive instruction in *every known process of healing*, whether it goes under the name Regular, Irregular, Allopathic, Eclectic, Homeopathic, Physio-Medical, Osteopathic, Hydropathic, or any other title." [Italics ours.—Ed.]

But in spite of all the inducements held out to students, the "university" was not a financial success and had it not been for its "sanitarium" annex would have gone out of existence even sooner than it did. At the "Ruskin Sanitarium" were "drug addicts, nervous cases, rheumatic and kidney troubles successfully treated." The advertisements of this "sanitarium" also call attention to "The Famous Glen Ellyn Mineral Springs and Mud Baths." Inquiries fail to disclose the whereabout of either the famous springs or the equally noted mud baths. There are springs at Glen Ellyn, it is true, and as they are not of distilled water, there is doubtless mineral matter in them—hence, by poetic, or advertisers' license, mineral springs, if you please. There are, too, occasional swampy spots where, in wet weather, a person willing to risk arrest for indecent exposure, might take a mud bath—but the people of Glen Ellyn have never heard of any one taking that risk. An unfeeling town council finally got after Miller, and, as the papers stated at the time, fined him $100 and gave him ten days in which to leave the town.

THE INTERNATIONAL INSTITUTE.

Miller says: "Since severing my connection with the Ruskin movement, I have been engaged in one way or another in trying to get my treatment for tuberculosis to the attention of the medical profession." The "International Institute" was the result, of which Orlando Edgar Miller, Ph.D., is the president and William Bond Forsyth—of whom more later—vice-president and business manager.

THE CASE OF RAYMOND FORSYTH.

If this matter were being published simply and solely for physicians it would be needless to say more about it. The medical profession has seen so many much-vaunted "consumption cures" rise like a rocket and come down like a stick, that it is able to assign the "International Institute" to its proper place in the gallery of fakes. We are confronted with the fact, however, that the paid "cappers" and "steerers" for this concern are daily inveigling helpless but hopeful consumptives into taking its "treatment," and we are continually receiving letters from physicians asking what they shall tell their patients who enquire about this "institute." We are, therefore, investigating the cases of some of the patients who have received "treatment" at the hands of the "International Institute."

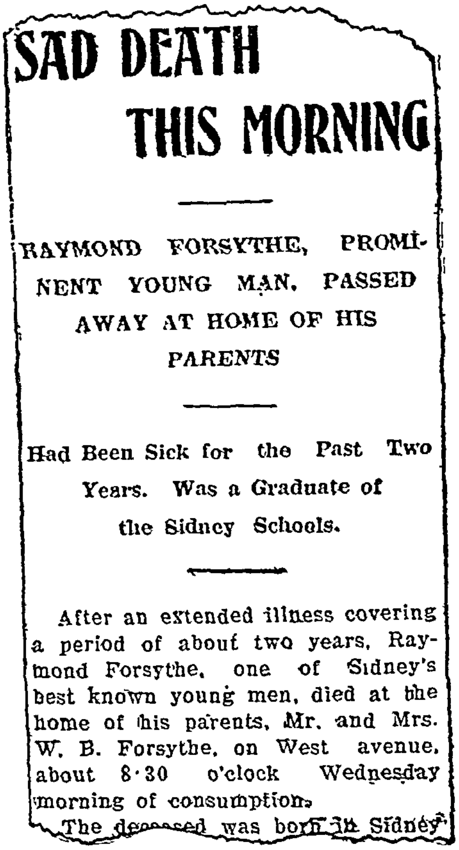
One case to which the concern gives such prominence as to publish it broadcast in pamphlet form as a "Case Report," is that of Raymond Forsyth. This young man was the son of the business manager of the concern, and the following information is given in the "Case Report" pamphlet:

> "Raymond Forsyth . . . had been examined by Dr. Frank Billings, Dr. Babcock and Dr. N. S. Davis, Jr., about a year ago. They all agreed he had a well-defined case of tuberculosis. . . ."

The young man was put on the O. E. Miller "treatment" with most marvelous (reported) results. The report closes as follows:

> ". . . has since gained 15 pounds of flesh; is getting stronger daily; walks and exercises by the hour.
>
> "His sputum has been examined weekly since his return and there have been found only slight traces of tubercle bacilli, which are gradually disappearing.".

Such is the information we get from the pamphlet. As a result of our investigations we could take up in detail various claims and statements and show their cruel mendacity, but probably the following reproduction from the Sidney (Ohio) *Daily News* of Dec. 2, 1908 will tell the tragic story more eloquently than anything we could say:



SAD DEATH THIS MORNING

RAYMOND FORSYTHE, PROMINENT YOUNG MAN, PASSED AWAY AT HOME OF HIS PARENTS

Had Been Sick for the Past Two Years. Was a Graduate of the Sidney Schools.

After an extended illness covering a period of about two years, Raymond Forsythe, one of Sidney's best known young men, died at the home of his parents, Mr. and Mrs. W. B. Forsythe, on West avenue, about 8·30 o'clock Wednesday morning of consumption.

The deceased was born in Sidney

As we have said, this young man's father, W. B. Forsyth, is vice-president, business manager, and, we understand, one of the principal stockholders in the "Institute." Yet the misfortune of a member of his own family is used as capital for "boosting" the business in which he is financially interested. Forsyth, senior, from all we can learn, has, like his associate Miller, been connected with more than one more or less shady concern. In his home town—Sidney, Ohio—he seems to be considered a "slick" individual who would not be deterred from going into any business because it happened to be only barely within the pale of the law. If we are correctly informed, he was some years ago mixed up in a concern known as the Bohemian Oats and Red Line Wheat Co., whose operations were such as to become the subject of enquiry by the courts. Forsyth also, it is said, exploited a wonderful "corn cure" for some years, later going into the oxygen business. Says a correspondent, "land schemes, irrigation schemes, patent car-coupler schemes and possibly others of greater or less notoriety can be charged up to this man, who thus makes capital out of his son's misfortune."

TWO MORE DEATHS.

Another case which was inquired into was that of a married woman from a small town in Illinois. The family physician, to whom we wrote, replied (Sept. 18, 1908) in part as follows, concerning the patient:

> "She is not there on my advice, but at the earnest solicitation of Mrs ————————, whose husband had tuberculosis and was there doing so nicely, improving every day, *but who was consigned to the grave yesterday*—cured I presume! . . . I am sure she will be in the Sanitarium Above within six months"

From a later letter (Nov. 26, 1908):

> "She [the patient] was brought home October 24, arriving here about 2 a. m. and died in her home about 11:45 a. m. of the same date"

Other cases are under investigation and but for the urgent need of giving physicians such facts as we have already at hand publication of this matter might have been further postponed. We shall publish in the future the results of such investigations if a continued pernicious activity of this concern makes it necessary.

Correspondence

The Viscosity of the Blood.

Columbia University, New York, Nov. 24, 1908.

To the Editor:—In The Journal, November 12, Dr. G. W. McCaskey has published a paper on the viscosity of the blood, taking especially into account its value in clinical medicine. I judge that Dr. McCaskey has not consulted a number of physiologic papers which have been published in recent years, and which, to a considerable degree, forestall his article.

Making no reference to the early and late work on the viscosity by Hürthle and myself, Dr. McCaskey has the kindness to refer to me in a footnote as follows:

"The following references may also be consulted: Burton-Opitz: *Am. Med.*, Phila., 1900, vii, 111; *Jour. Exper. Med.*, 1906, viii, 59, 240; *Abstr. Am. Med.*, new series, i, 42; *Arch. f. d. ges. Physiol*, cxii, 189." I am grateful to Dr. McCaskey for bringing my name so prominently before the readers of The Journal, but as I do not desire credit rightly belonging to others, I beg to state that I have not used *American Medicine* as a medium for publication.

Furthermore, in order to show how valuable the viscosity of the blood has appeared to a physiologist, and how widely many of the facts given in Dr. McCaskey's paper have been circulated prior to the publication of his article, I may be permitted to add the following references: Burton-Opitz: *Arch. f. d. ges. Physiol.*, 1900, lxxxii, 447-463 and 464-473; ibid, 1906, cxii, 1-5; ibid., 1907, cxix, 359-372; *Jour. Exper. Med.*, 1906, viii; ibid, 1906, viii, 240-243; *Zentralbl. f. Physiol.*, 1904, xviii, No. 16, *Jour. Physiol.*, 1904, xxxii, No. 1; ibid., 1905, xxxii, Nos 5 and 6; *Am. Jour. Physiol.*, 1902, vii, 243 259.

I also desire to call attention to the last volume of the Proceedings of the Society for Experimental Biology and Medicine, where will be found described a method for the determination of the viscosity, which has many points in common with Dr. McCaskey's, in spite of the fact that the said method has gained priority by publication.

I submit that the above references will show that the largest number of Dr. McCaskey's "conclusions" have been, to say the least, anticipated by others.

R. Burton-Opitz.

A proof of the above letter was submitted to Dr. McCaskey, who replies as follows:

Fort Wayne, Ind, Nov. 30, 1908.

To the Editor:—After re-examining my article on the viscosity of the blood, since reading the letter of Prof. Burton-Opitz, kindly submitted by you, I hasten to say that I have not given due credit to the work of that able investigator. It is scarcely fair on his part, however, to say that I do *not* refer to the early work of Hurthle, the fundamental character of which is distinctly mentioned on pages 1563 and 1564. The intimation that I am not familiar with the literature is also unjust. The abstracts alone which furnish a part of the literary basis of my paper occupy nearly fifty type written pages, legal cap size, and comprise nearly the entire literature of the subject. There was appended to these abstracts a bibliography which was as complete up to about April, 1908, as a capable abstractor, himself a physician, could make it from the material accessible in the surgeon general's office at Washington. It was manifestly impossible to utilize in my article more than a small part of this mass of material. The article was prepared by a clinician for clinicians, and I simply selected without much reference to the personality of the investigators such facts as would enable me to best present the subject for the purpose intended. I have very full abstracts of several of Professor Burton-Opitz's papers, more than one fact which he helped to establish being woven into the discussion without the acknowledgment which could properly have been given, and which should not have been entirely omitted. This was simply an unfortunate oversight, for which I am glad to have the opportunity to make amends, but which in no way affects the importance of the facts or the validity of the conclusions. There are other investigators who probably should have received more specific notice, although I particularly regret the present instance. In canvassing the literature alleged facts were carefully collated, and brought in touch with my own experience and observation, with the intention, of course, so far as practical in a brief paper, of crediting them to their source.

After all, however, the real questions of actual criticism, of this or any other paper, which most deeply concern the profession are the reliability of the facts, and the soundness of the conclusions set forth by the writer as fairly representing the present status of the subject. Individual facts, when poured into the common treasury, become common property and investigators must not expect clinical workers to label each fact with its paternity. This would burden clinical literature to an impossible degree.

Professor Burton-Opitz says that he has not used "*American Medicine* as a medium for publication." I did not say that he did. I only cited the location of the reference. With regard to one of the references to *American Medicine*, namely, the one to volume vii, page 111 (the other one is not at this moment accessible), the following are the facts: It is in the form of a special article reporting the Proceedings of the Society for Experimental Biology and Medicine. The article was furnished by William J. Gies, the secretary of the society, who says that the abstracts which he furnished were written by the authors themselves. If there is any issue here, I think it lies between Professor Burton-Opitz and the secretary of the Society for Experimental Biology and Medicine, and I will leave it to the readers of The Journal to decide whether such a bibliographic reference is or is not entirely proper, and also to form their own judgment of this sort of criticism.

His statement that the "largest number of my 'conclusions' have been, to say the least, anticipated by others" does not disturb me in the least. Among other things, it indicates that they are well founded. They might just as well have been labeled a summary, as they are nearly all of them based on the data contained in the article to which they are attached, and certainly, so far as I can see, do not contain even a suggestion of the absurd claim that they are based on individual research or investigation. They simply state in brief epitome what is my own judgment of the entire subject, based on a decidedly extensive and very nearly exhaustive review of the literature, and on clinical observation.

In "conclusion," I venture to express the hope that Professor Burton-Optiz, along with other original investigators, will continue to broaden and deepen our knowledge of scientific facts. For my part I will continue to plod modestly along the thorny clinical road on which every gleam of light from experimental science is more than welcome, and will be utilized to the fullest extent in solving the problems of practical medicine.

G. W. McCaskey.

Dr. John H. Rauch—A Pioneer in the Fight Against Quackery.

Galesburg, Ill., Dec. 5, 1908.

To the Editor:—To one who knew the late Dr. John H. Rauch, it is gratifying to read the appreciative letter of Dr. George Homan of St. Louis, in The Journal, December 5, regarding the work of Dr. Rauch while secretary of the Illinois State Board of Health. The committee on necrology of the Illinois State Medical Society for 1894 reports that Dr. John H. Rauch died at his birthplace, Lebanon, Pa., March 24, 1894. Whether or not he was buried there is not stated.

Dr. Rauch was the unconscious product of the demand for greater things in medicine. With clear vision he saw that the great thing, as well as the first thing, was the preliminary education of the individual seeking to practice medicine in Illinois. I well remember that when I entered this state from Minnesota to practice my profession, I was considerably worried to be told that I could not obtain a permit to practice until I was examined, not only from a literary, but from the medical point of view. After passing the literary examination before the late Newton Bateman, then president of Knox College, and also a member of the State Board of Health, I was able to secure a permit to practice by presenting proofs that I had taken a four-year course in one medical school before graduation. Before this time, I had never heard of such a procedure as a requisite to practice medicine in any state.

This personal experience was not coincident with the beginning of Dr. Rauch's greatest work, the promotion of higher medical education; but it was evidence of the work which he had already well started on the way, at least ten years before. It is said that when the Medical Practice Act of 1877 went into effect in Illinois, "about 3,600 non-graduates were practicing medicine in the state," and of these about 1,400 left the state or quit practice within a year of the passage of the law. It was said of Dr. Rauch at that time: "To him more than to any one else, indeed, more than to all others, are due the medical practice acts of other states, weeding out quackery, and the extended terms of medical colleges from three to four years, requiring additional study preliminary to conferring the medical degree." (Quoted from the *Sanitarian.*)

The promotion of higher medical education was but a small part of Dr. Rauch's activities. He was by instinct and training a scientist. He began this training as a private pupil of Prof. Louis Agassiz of Harvard College, and lived for some time in his family. It would be a pleasure to me, did space permit, to repeat here what the earlier chroniclers of this man's strong and efficient life had to say of him. These things influenced me and made me to know, as it did every other man and woman practicing the healing art in this state, that there was some one at the head of our State Board of Health who was potent. We felt the intensity of his strength. We knew that he had force and vigor and power, as well as the energy of achievement.

Dr. Rauch had faults; those of us who knew him can relate them. But back of some of his worst faults could be seen the cunning of the diplomat, whose consuming desire was the real advancement of his cause. Dr. Rauch was greater than his faults. He created. He had a mind and a brain, and above all a spirit that is still working among us.

He taught legislators how to bend the altruism of the medical profession to the public good. His professional life had in it the same essence that will make the names of Tyndall, Pasteur, Virchow, Koch and Lister immortal. It is no disparagement of those who have taken up his work since he left it in their care, that none has come who did more than work along the lines that he laid out. Dr. Rauch was a scientific sanitarian. In addition, he was a politician. How much of this latter training is now needed in our health boards is a question; but one thing is certain, the day has gone by when the state can afford to get along without a trained sanitarian as a part of its official health family.

All of which goes to show that, as pointed out by Dr. Homan, Illinois has not yet, in recognition of Dr. Rauch, her adopted son, done the *amende honorable*. At the present time, when the profession and the public have been taught the value of the work which he initiated, it would seem to be an opportune time to take up the question, as has been suggested, of putting in some permanent form the record of his great achievements. Just what form this memorial should take can well be left to the Illinois State Medical Society, of which he was an honorable and conspicuous member.

J. F. Percy.

Lacteal Secretion in the Male.

Chicago, Nov. 30, 1908.

To the Editor:—The remarks of Dr. Gellhorn, in his excellent article in The Journal, November 28, on "Abnormal Mammary Secretion," etc., *in re* the rarity of lacteal secretion in the male, recalls to my mind a case that may be of interest: A youth, 17 years of age, serving sentence for highway robbery, came under my care during my term of service at the Penitentiary Hospital, Blackwell's Island, N. Y. He was suffering from some minor pulmonary trouble—bronchitis, as I remember it. He objected to being stripped for examination. When this was done, it was found that his sensitiveness was due to his humiliation over the possession of two well-developed mammæ, of about the size of the average virginal breast at puberty. From these breasts I freely expressed lacteal secretion in moderate quantity and of a quality which, as shown by chemical and microscopic examination, was fully equal to the average standard of female lacteal secretion. According to the history, the condition had existed for about a year. The cause was unknown and the subject otherwise normal, the sexual apparatus being well developed.

As is true of most such institutional cases, the subject was lost sight of after he had served his term of punishment. Interne like, I regarded the case as a curio and did not recognize its scientific value, hence did not at that time report it. I have a hazy notion that I afterward did so, but if so, the journal in which it was reported is beyond my recollection.

G. Frank Lydston.

Sea-Water in Tuberculosis and Other Diseases.

Valdez, Alaska, Nov. 20, 1908.

To the Editor:—For the past two years I have been experimenting with sea-water as a remedial agent in tuberculosis, anemia, chlorosis and dyspepsia, and the result has been so gratifying that I feel constrained to publish the facts. I have had over twelve cases of pulmonary tuberculosis; four of the patients were bed-ridden. One patient gained 35 pounds in three months, another 16 pounds in one month, and after the first quart of sea-water ceased to have night sweats. Another patient gained 12 pounds in six weeks. All these patients have retained their weight, are apparently well, and have normal temperature. I have had the same experience in cases of anemia, chlorosis and some forms of dyspepsia, and I urge that a thorough test be made of sea-water in these diseases. My method is to have the patients drink from 1 to 3 pints of sea-water each day, and I have found that after taking it a day or two, the patients not only do not object to it, but seem to like it. Dr. Charles, in the *British Medical Journal*, reports some very interesting experiments with sea-water. He advocates diluting it with natural potable water, in the proportion of two parts to five; but I have found that there is very little objection to drinking it in its natural state. It is impossible, in the cities remote from the sea, to obtain the fresh sea-water, and I have had some carbonated, which renders it more palatable and equally efficacious.

E. C. Dalton.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

JOURNALS ON OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

To the Editor:—Please give the names of the best and leading journals on ophthalmology, otology and laryngology.

J. M. Garber.

Answer.—The following are representative journals:

Annals of Otology, Rhinology and Laryngology, Mermod-Jaccard Bldg., St. Louis, $4 a year.

Annals of Ophthalmology, Mermod-Jaccard Bldg., St. Louis, $4 a year; with *Annals of Otology, Rhinology and Laryngology*, $7 a year.

Laryngoscope, 3858 Westminster Pl., St. Louis, $3 a year.

Ophthalmic Record, 72 Madison St., Chicago, $4.50 a year.

Journal of Ophthalmology and Oto-Laryngology, 100 State St., Chicago, $2 a year.

Ophthalmology, 105 Grand Ave., Milwaukee, $5 a year.

Journal of Laryngology, Rhinology and Otology, 21 St. Thomas St., London, S.E., England, $5 a year, including postage.

Archives of Ophthalmology, (Am. ed.), New Rochelle, N. Y., bi-monthly, $4.50 a year.

Archives of Otology (Am. ed.), New Rochelle, N. Y., bi-monthly, $4.50 a year.

The two last named are the American editions of the German journals of the same name.

HYDRARGYRUM SUCCINIDUM.

Eagle Grove, Iowa, Dec. 2, 1908.

To the Editor:—In the article on "Treatment of Tuberculosis by Mercury" in The Journal, Nov. 28, 1908, I come on this chemical product in closing the article. I do not ask, what is this, because I presume it may be possible to be amber mercury in such a way as to make it either a succinimid or a succinamid, an ammonia derivative of succinic acid. But is this salt official? This preparation is not mentioned in the U. S. Pharmacopeia, the Dispensatory, the National Formulary or New and Nonofficial Remedies. Why then should this rare chemical salt be the one selected in the very long list of mercurials available? That tuberculosis and syphilis exhibit striking pathologic similarities and probably yield to the same treatment is a plausible theory, but why the succinimid should be used in preference to other more familiar mercurial salts seem strange. This salt is certainly not only not to be found in text-books, but I doubt if one pharmacist in a thousand carries it or has ever heard of it. Why should one firm or institute have a corner on something that ought to be available and purchasable anywhere? In what does this differ from the commercial spirit that sells acetanilid under the names of antikamnia and antifebrin, or that tries to monopolize the tuberculosis market with Lloyd's Aicsol or Robert's Hydrocine or reduce the corpulent with thyroid extract under title of marmola, rengo and other strange names? If the succinimid of mercury cures tuberculosis, does not the protoiodid, the biniodid, the mild or the strong chlorid or even the old fashioned unguentum hydrargyri? But if the succinimid, on the contrary, is the only salt of mercury that cures tuberculosis, then by all means let us get it on the official list at the next revision of the U. S. P.

H. K. Henriksen, M.D.

Answer.—Mercury succinimid is a definite chemical substance. It is the mercury salt of the imid of succinic acid. The Council on Pharmacy and Chemistry has accepted mercury succinimid as a non-proprietary substance for inclusion with the next edition of New and Nonofficial Remedies, which will appear about January 1. There has been little if any call for the drug in the American market, consequently it may not be kept in stock by distributors or pharmacists.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Dec. 5, 1908:

Kennedy, J. M., major, ordered to report Dec. 1, 1908, for duty as acting chief surgeon, Department of California.

Merse, C. F., capt., relieved from duty at Fort Howard, Md., and directed to proceed to Fort Huachuca, Ariz., to accompany troops to the Island of Oahu, H. T., for duty there.

Williams, A. W., capt., granted leave of absence for 3 months.

O'Reilly, R. M., brig.-general; Russell, Frederick F., capt., and Vaughan, V. C., Councilman, W. T., Musser, J. H., Lambert Alex., Flexner, Simon, Thayer, W. S., 1st lieuts., M. R. C., appointed a board to meet at Washington, Dec. 7, 1908, to investigate the question of immunizing the Regular, and, in case of war, the Volunteer Army against typhoid fever.

Trotter-Tyler, G., M. R. C., ordered from Fort Adams, R. I., to Fort Revere, Mass., for temporary duty.

Stephenson, A. V., M. R. C., honorably discharged from the service of the U. S.

Enders, W. J., M. R. C., granted leave of absence for 10 days.

Kelly, J. P., M. R. C., relieved from duty at Fort Miley, Cal., and ordered to duty at the camp to be established on the Island of Oahu, H. T.

Vaughan, V. C., Councilman, W. T., Musser, J. H., Lambert, Alex., Flexner, Simon, Thayer, W. S., M. R. C., ordered to active duty in the service of the U. S.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Dec. 5, 1908:

Curtis, E. E., asst.-surgeon, ordered to the *Chattanooga*.

Olson, G. M., asst.-surgeon, ordered to the *Culgoa*.

Stokes, C. F., surgeon, detached from command of the *Relief* and ordered home.

Spear, R., surgeon, detached from the *Relief* and ordered to the *Rhode Island*.

Dessez, P. T., P. A. surgeon, detached from duty at the naval hospital, Mare Island, Cal., December 31, and ordered to the Pacific Fleet, sailing from San Francisco, about January 5.

Dunbar, A. W., surgeon, ordered to command the *Relief*.

Public Health and Marine-Hospital Service.

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended Dec. 2, 1908:

Cobb, J. O., surgeon, granted 15 days' leave of absence from Dec. 22, 1908.

Stoner, J. B., surgeon, directed to proceed to Louisville, Ky., Cairo, Ill., and Memphis, Tenn., on special temporary duty, Nov. 17, 1908.

Cofer, L. E., P. A. surgeon, directed to report to Director Hygienic Laboratory for temporary duty, Nov. 27, 1908.

Cofer, L. E., P. A. surgeon, granted 4 days' leave of absence from Dec. 1, 1908, under Paragraph 191, Service Regulations.

Billings, W. C., P. A. surgeon, bureau orders of Nov. 3, 1908, detailing him for duty on the Revenue Cutter *Itasca*, amended, detailing him for duty at the Revenue Cutter School of Instruction, Arundel Cove, Md., Nov. 26, 1908.

Corput, G. M., P. A. surgeon, granted 10 days' leave of absence from Dec. 8, 1908.

Foster, Albert D., P. A. surgeon, relieved from duty on the Revenue Cutter *Thetis;* directed to proceed to Angel Island, Cal., and report to commanding officer, Nov. 26, 1908.

Lanza, A. J., asst.-surgeon, relieved from duty on the Revenue Cutter *Rush;* directed to report to commanding officer of the Revenue Cutter *McCulloch*, for duty.

Oleson, Robert, asst.-surgeon, on being relieved by Assistant Surgeon A. J. Lanza, directed to proceed to Marine-Hospital, San Francisco, and report to commanding officer for temporary duty.

Duke, B. F., acting asst.-surgeon, granted 23 days' leave of absence from Nov. 23, 1908.

Gustetter, A. L., acting asst.-surgeon, granted 6 days' extension of leave of absence from Nov. 26, 1908.

Thompson, W. R. P., acting asst.-surgeon, leave of absence for 30 days from Nov. 23, 1908, granted Nov. 11, 1908, revoked Nov. 27, 1908.

BOARD CONVENED.

Board of medical officers convened to meet at the Marine-Hospital, Baltimore, Dec. 2, 1908, for the re-examination of a cadet of the U. S. Revenue Cutter Service. Detail for the board: Surgeon W. P. McIntosh, chairman; P. A. Surgeon J. W. Schereschewsky, recorder.

CASUALTY.

Miller, W. W., asst.-surgeon, died in Washington, D. C., Nov. 24, 1908.

Health Reports.

The following cases of small pox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service during the week ended Dec. 4, 1908:

SMALLPOX—UNITED STATES.

California: San Francisco, Nov. 7-14, 8 cases.
Kansas: Topeka, Nov. 7-14, 7 cases.
Ohio: Cincinnati, Nov. 13-20, 2 cases.
Tennessee: Nashville, Nov. 14-21, 1 case.
Texas: Encinal, Oct. 22-Nov. 26, 49 cases.
Washington: Spokane, Oct. 7-14, 1 case; Tacoma, Oct. 24-Nov. 1, 4 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, Oct. 3-10, 4 cases.
Algeria: Algiers, Oct. 1-31, 22 deaths.
Arabia: Aden, Oct. 19-Nov. 2, 19 deaths.
Brazil: Bahia, Sept. 1-30, 174 cases, 6 deaths.
Canada: Halifax, Nov. 7-14, 4 cases; Victoria, 1 case.
Ceylon: Colombo, Oct. 3-17, 56 cases, 11 deaths.
Egypt: Cairo, Oct. 21-28, 7 cases, 1 death.
France: Paris, Oct. 24-Nov. 7, 4 cases.
India: Bombay, Oct. 20-27, 2 deaths; Calcutta, Sept. 26-Oct. 10, 3 deaths.
Italy: General, Nov. 1-8, 4 cases; Naples, 12 cases.
Russia: Odessa, Sept. 26-Oct. 3, 2 cases; Warsaw, Oct. 10-17, 5 deaths.
Spain: Barcelona, Oct. 31-Nov. 7, 2 deaths.
Turkey: Constantinople, Nov. 1-8, 7 deaths.

YELLOW FEVER.

Brazil: Bahia, Sept. 1-30, 1 death; Para, Oct. 17-24, 3 cases, 3 deaths.
Martinique: Port de France, Oct. 24-31, 1 case.
Mexico: Campeche, Nov. 7-14, 1 case; Merida, 5 cases, 3 deaths; Vera Cruz, 2 cases, 1 death.

CHOLERA—INSULAR.

Philippine Islands: Manila, Oct. 3-10, 55 cases, 14 deaths; Provinces, 1,276 cases, 738 deaths.

CHOLERA—FOREIGN.

China: Hankau, Oct. 27, present.
India: Bombay, Oct. 20-27, 1 death; Calcutta, Sept. 26-Oct. 10, 20 deaths; Madras, Oct. 17-23, 7 deaths.
Russia: General, to Oct. 24, 25,509 cases, 11,962 deaths; St. Petersburg, Sept. 26-Oct. 24, 7,574 cases, 3,121 deaths.
Straits Settlements: Singapore, Oct. 10-17, 1 case.
Japan: Moji, to Oct. 28, 2 cases; Obama, 1 case; Sasebo, to Oct. 2, 2 cases; Tsushima, 7 cases.

PLAGUE.

Brazil: Bahia, Sept. 1-30, 8 deaths; Para, Oct. 10-17, 1 case, 1 death.
Chile: Iquique, Oct. 23-26, 3 cases; present.
India: General, Oct. 10-17, 3,717 cases, 2,649 deaths; Bombay, Oct. 20-27, 12 deaths; Calcutta, Sept. 26-Oct. 10, 13 deaths; Rangoon, Oct. 10-17, 6 deaths.
Peru: General, Oct. 15-28, 38 cases, 25 deaths; Lima, 7 cases, 1 death.

Association News

NEW MEMBERS.

List of new members of the American Medical Association for the month of November, 1908:

ALABAMA.

Mason, E. M., Montgomery.
Street, T. H., Alexander City.

ARKANSAS.

Murchison, A. J., England.
Sheriff, J. P., Supply.

CALIFORNIA.

Houston, Albert, San Francisco.
Holt, Wm. L., Santa Barbara.
Hurst, J. H., Montecito.
Irwin, W. H., Oakland.
Kiuell, F. J., Los Angeles.
Lewis, Will J., Santa Yuez.
Olmsted, R. C., Pasadena.

COLORADO.

Emery, E. W., Denver.
Hill, C. A., Trinidad.
Klinkowstroem, E. V., Denver.
Perkins, J. M., Denver.

CONNECTICUT.

Chedel, C. B., Kensington.

DELAWARE.

Dwight, E. S., Smyrna.

IDAHO.

Judd, H. H., Wallace.

ILLINOIS.

Beck, H. E., Moline.
Coquillette, W. E., Byron.
Ecke, A. C., Chicago.
Frantz, D. W., Metcalf.
Hoffmann, F. F., Chicago.
Miller, Ira M., Chicago.
Koessler, K. K., Chicago.
Pagano, Raffaele, Chicago.
Pease, L. W., Chicago.
Pfeifer, J. P., Chicago.
Wrightsman, Edward C., Chicago.

INDIANA.

Burroughs, J. P., Westport.
DuBois, C. C., Warsaw.
Dutton, H. H., Paragon.
Fair, H. D., Muncie.
Hall, Silas, Vincennes.
Harrod, N. G., Tampico.
Lockwood, R. L., Elkhart.
Mathews, W. R., Madison.
Magers, F. M., Churubusco.
Morr, J. W., Albion.
Nixon, John, Farmland.
Norris, A. A., Elkhart.
Osbon, G. G., Jasonville.
Parker, J. J., Merom.
Shoemaker, G. L., North Manchester.
Stamets, Z. H., Auburn.
Stephenson, T. J., Lapel.
Sweet, E. M., Martinsville.
Wells, M. M., Fairland.
Yarling, J. E., Peru.

IOWA.

Clarke, F. S., Lemars.

KANSAS.

Lidikay, C. J., Kansas City.
Vallette, H. B., Jewell.

KENTUCKY.

Ford, E. W., Hartford.
Helm, T. O., Auburn.
Marks, S. B., Lexington.
Quaife, C. E., Louisville.
Wright, C. A., Cayce.

MARYLAND.

Brülle, Herman, Baltimore.
Hebb, A., Baltimore.
Naylor, H. A., Pikesville.

MASSACHUSETTS.

Galvin, A. H., Salem.
Hatch, Royal, Wellesley.
Oliver, E. L., Boston.

MICHIGAN.

Anderson, J. W., Royal Oak.
Baker, Norman L., Milford.
Belanger, J. A., Grosse Pointe.
Clemes, W. T., Blissfield.
Doran, W. E., Colon.
Ferguson, J. A., Rudyard.
Francis, A. M., Port Austin.
Frankhauser, Silas, Hillsdale.
Greenmyer, J. D., Niles.
Hanna, W. B., Mass.
Husband, F. H., Sault Ste. Marie.
Jones, A. J., Painesdale.
McBurney, W. W., Stambaugh.
McVicar, N. D., Lum.
Newcomb, S. O., Ida.
Nitterauer, J. S., Ontonagon.
Nottingham, Bert, Lansing.
Osborne, D. P., Kalamazoo.
Quick, J. B., Kearsage.
Rhines, James, Jr., Mohawk.
Simenton, George, Marlette.
Sleneau, Talbert, Port Huron.

MINNESOTA.

Beachler, G. F., Minneapolis.
Franzen, H. G., Minneapolis.
Guilford, H. M., Minneapolis.
Haynes, F. E., Minneapolis.
Laudenberger, John, New Prague.
Monahan, J. A., Minneapolis.
Phillips, W. H., Jordan.
Pratt, F. J., Jr., Minneapolis.
Silvertsen, Ivar, Minneapolis.
Wilcox, M. R., Minneapolis.
Williams, C. W., Minneapolis.

MISSOURI.

Campbell, O. H., St. Louis.
Chalkley, A. J., Lexington.
Cope, J. O., Lexington.
Laurenzana, D. A., Kansas City.
Lewis, E. A., Rock Port.
Owens, J. H., Sweet Springs.
Wilson, Roy E., LaBelle.

MONTANA.

Cuttle, Frederick, Hunters Hot Springs.

NEBRASKA.

Barnes, E. M., Plainview.
Conklin, R. E., Alma.
Martyn, D. T., Columbus.
Smith, H. C., Franklin.

NEW JERSEY.

DuBois, F. E., Plainfield.

NEW MEXICO.

Parr, H. F., Carlsbad.

NEW YORK.

Amster, J. L., New York City.
Bailey, H. C., New York City.
Bickford, J. W., Lockport.
Biggar, H. R., Glen.
Chase, G. T., New York City.
Cleland, F. A., New York City.
Fischlowitz, G. G., New York City.
Foster, M. L., New York City.
Gordon, C. A., Brooklyn.
Gregory, Alice, New York City.
Hengerer, Louis, Hamburg.
Jackson, G. B., Angelica.
Knight, C. C., Peekskill.
Langmann, G. A., New York City.
Lathrope, G. H., Binghamton.
Lawrence, R. A., Albany.
MacKenzie, D. A., New York City.
Merwin, E. B., Manlius.
Norris, H. S., New York City.
Patterson, C. J., New York City.
Remer, John, New York City.
Scofield, C. E., Brooklyn.
Squire, A. P., Rotterdam Junc.
Stone, Thomas, New York City.
Thomas, L. A., Painted Post.
Titus, H. W., New Rochelle.
White, H. D., Rome.
Whitbeck, S. V., Hudson.
Wilcox, D. G., Buffalo.
Wiseman, J. R., Syracuse.

NORTH CAROLINA.

Howe, W. B. W., Hendersonville.

OHIO.

Baird, R. J., Creston.
Buel, J. J., Cleveland.
Clingaw, T. O., Niles.
Gardner, G. R., Ashville.
Haris, E. C., Springfield.
Hitchcock, S. A., Lima.
Landor, T. H., Canton.
Lang, M. W., Ridgeville.
Lietze, Bertha C., Cincinnati.
McClenahan, C. W., Collingwood

Miller, Louis, Toledo.
Millette, J. W., Dayton.
Murphy, J. J., Lima.
Norton, F. B., Cleveland.
Speer, A. T., Newark.
Tenney, C. F., Toledo.
Ward, C. S., Warren.

OKLAHOMA.

Baker, R. L., Wynnewood.
Huddle, W. T., Lamont.
Powell, J. P., Olney.
Reed, O. D., Frederick.
Ruhl, N. E., Piedmont.
Shippey, R. H., Chickasha.
Troutt, L. W., Afton.
Vick, J. T., Fort Towson.

PENNSYLVANIA.

Gilliland, J. F., Beaver Falls.
Ridgway, R. F. L., Harrisburg.
Rentschler, H. F., Reading.

TEXAS.

Clutter, B. F., El Paso.
Hickey, M. L., Chalk Mountain.
Johnson, I. F., Gatesville.
Martin, R. G., La Verina.
Ponton, A. R., Copperas Cove.
Winn, Wm. A., Tuscola.

VERMONT.

Leonard, L. L., Barre.

VIRGINIA.

Richardson, A. S., Hurley.
Woolwine, W. D., Pearlsburg.

WASHINGTON.

Campbell, R. H., Little Falls.
Harrington, W. W., Spokane.
Hotchkiss, W. B., Chehalis.

WEST VIRGINIA.

Boso, Fred M., Henry.
Schoolfield, E. R., Wevaco.
Swann, P. H., Huntington.

WISCONSIN.

Lewis, W. H., Aniwa.
Schmidt, W. J., Mayville.
Webb, W. B., Beaver Dam.

WYOMING.

Foster, W. C., Sunrise.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

The Danger of Signing Petitions.

Under the above title, the *New York State Journal of Medicine* for November comments editorially on a frequently noted failing of members of our profession, namely, that of signing petitions and endorsing movements of all sorts without giving careful consideration to the merits of the plan or individuals endorsed. The editorial calls attention to the coming meeting of the state legislature and to the large number of bills which will probably be introduced, many of which will affect the profession or the public from the standpoint of the physician. Regarding this mass of proposed legislation the editorial says, "Some of these measures are worthy and should become laws. Others are either poorly digested or crude efforts to cure real or imaginary ills by legislation. Some are purely local in character and while they might help a particular individual or locality, if applied to the entire state would be uncalled for or even harmful. Some of the proposed measures conflict with laws already in existence and would cause much confusion if passed. Many are clearly unconstitutional, while others are unnecessary or vicious."

Attention is then called to the machinery which has been devised for county and state societies with a view to considering and handling legislative matters. Each county society has or should have a committee on legislation, while the committee on legislation of the state society has general oversight and charge of all legislative matters. These committees "employ many means to present arguments to the legislator for or against proposed legislation, among them being the signing and forwarding to the legislature of properly worded petitions. This method is also employed by those who desire to promote public sentiment for or against proposed legislative methods and very frequently medical men are asked to sign such petitions. A request to sign may be made by a friend and for that reason the signature may be given without any really careful thought being accorded the proposed measure, or the petition may be presented by a plausible and tactful agent who may explain all the benefits and omit all the disadvantages of the bill if it should become a law." Members of the state society are urged to refrain from signing petitions or endorsing legislation which they do not thoroughly understand, and which has not already been approved by the regularly constituted committees. "Unless great care is exercised many will find to their sorrow that their approval has been secured for measures which, when they have time to study them carefully, meet with their hearty disapproval or condemnation. . . . How much wiser it would be for the doctor, when asked to approve or disapprove of impending or proposed legislation, to refuse to sign such petitions and to await the action of the state society of which he is a member, and through which he can speak by action of his house of delegates or committee on medical legislation?"

This editorial admirably emphasizes a shortcoming of our profession which must be corrected if medical organizations are ever to perform properly their duties to their members and to society. Physicians as a class must learn to work in regular systematic channels and through existing constituted means. There is nothing to be gained by electing officers and appointing committees for specific purposes, if the individual member is to ignore such officials and approve or disapprove important measures on his individual responsibility and opinion. Such a method can mean only a relapse into the disorganized, individualistic state of conflicting personal opinions, multitudinous views and lack of practical results from which we are just emerging. Nor are practical illustrations of the dangers of such a course wanting. During a recent session of a state legislature, the committee on public policy of the state association was vigorously opposing the passage of a certain bill on the ground that the entire state association which it represented was opposed to its passage. Much to the embarrassment of the committee, it was learned that one of the sections of the state society had, without any adequate consideration adopted a resolution endorsing the same measure which the committee on legislation was opposing.

Such incidents are by no means creditable, although perhaps instructive. Individual members as well as county societies—unless they thoroughly understand the subject and have good reasons for doing otherwise—should refrain from approving or disapproving proposed legislation, leaving this task to the properly constituted committees which have carefully considered the subject. The work of the individual member and society should be limited to carrying out the recommendations of the committee on legislation. Such a plan is not "machine rule," depriving the individual member of his right of opinion, etc., but is merely the subordination of the individual to the organized body for the general good, and is the substitution of an intelligent, carefully considered decision for a hasty and often erroneously conceived opinion of the measure in question.

Medical Service Bills Endorsed.

The Marin County (Calif.) Medical Society has adopted resolutions endorsing the United States Public Health and Marine-Hospital Personnel Bill, providing pay for the officers of the service on an equality with that received by officers of the Army and Navy. Resolutions have been adopted by the Northeastern Dental Association, a body composed of dentists from Maine, New Hampshire, Massachusetts, Rhode Island and Connecticut, endorsing the bills providing for a dental corps in the Army and Navy, as proposed by the surgeon-generals of the army and war departments.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
Bowling Green, Kentucky.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Fifth Month—First Weekly Meeting.

General Subject for the Month: Non-Venereal Diseases of the Genitourinary Tract.

ANATOMY OF BLADDER AND URETHRA.

Bladder.—Location, surface markings, shape, size, relations, space of Retzius. Surfaces, sides, apex. Base, neck of bladder, intervesicular triangle, vesicle trigone. Ligaments, blood vessels, nerves, lymphatics. Structure of bladder wall.

Urethra.—Shape and variations, length, curves, caliber, divisions. (a) Prostatic, length, shape, boundaries, verumontanum, prostatic sinus, orifices of prostatic ducts, of ejaculatory ducts. (b) Membranous, length, shape, boundaries. (c) Spongy or penile, length, boundaries, shape, fossa navicularis, bulbous portion, meatus, glands of Littré, ducts of Cowper's glands. Structure of urethra, mucous coat, submucous coat.

ANATOMY OF PROSTATE GLAND AND PENIS.

Prostate.—Location, shape, size, relations, prostatic muscle, prostatic fascia, true capsule, apex, base, surfaces, lobes. Structure, muscular and glandular tissue. Vessels, nerves and lymphatics.

Cowper's Glands.—Location, size, structure.

Penis.—Root, crura, suspensory ligament. Body, shape, size, integument, surfaces. Extremity, meatus, glans, corona, cervix, glandulæ. Structure: (a) corpora cavernosa, fibrous sheath (tunica albuginea), crus, bulb, septum, trabeculæ, cavernous spaces, distribution of arteries, veins; (b) corpus spongiosum, relations, bulb of urethra, body, glans penis, fibrous layer, trabeculæ. Vessels, nerves and lymphatics of penis.

ANATOMY OF SCROTUM AND TESTICLE.

Scrotum.—Skin, structure. Dartos, structure, attachments, septum scroti. Intercolumnar fascia. Cremasteric fascia and muscle. Infundibuliform fascia. Spermatic cord, relations, coverings, arteries, veins, spermatic duct, lymphatics.

Testicle.—Size, shape, position. Testis, extremities, borders and surfaces. Epididymis, globus major, body, globus minor. Tunica vaginalis, origin, visceral and parietal layers. Tunica albuginea, structure, relations, trabeculæ. Tunica vasculosa. Structure, lobules, convoluted and straight tubes, efferent ducts. Spermatozoids. Epididymis. Seminal duct. Semen. Seminal vesicles, size, shape, location, structure. Ejaculatory ducts.

REFERENCE BOOKS FOR THE FIFTH MONTH.

White and Martin: Genitourinary and Venereal Diseases.
Casper: Text-book of Genitourinary Diseases.
Keyes: Genitourinary Diseases.
Taylor: Genitourinary and Venereal Diseases.
Green and Brooks: Diseases of Genitourinary Organs and Kidneys.

Marriages

W. Louard Cash, M.D., to Miss Ida Effa Nichols, both of Princeton, Ky., November 19.

Otto C. Gaebe, M.D., Addieville, Ill., to Miss Alma B. Wilde of New Athens, Ill., December 2.

Wilson T. Davidson, M.D., U. S. Army, to Miss Mary Hudson, at Bolton, Texas, November 23.

Henry Clay Cowles, M.D., to Miss Grace Truman Fuller, both of New York City, November 24.

Charles M. Kennedy, M.D., Camden, Ind., to Eva Nebeker, M.D., of Covington, Ind., November 25.

Thomas S. Egan, M.D., Mapleton, Ill., to Miss Winifred M. Leonard, of Newark, N. J., November 25.

James Fulton Burnam, M.D., Huntsville, Ala., to Miss Laura Dillard, of Triana, Ala., November 24.

Charles W. Eisenhower, M.D., Jacobus, Pa., to Miss Sadie A. Boyer, of York, Pa., November 24.

Japheth Edward Rawls, M.D., to Miss Emma Copeland Holland, both of Suffolk, Va., November 24.

A. R. Sweeney, M.D., Lake Arthur, La., to Miss Rilla D. Ingram, of Wichita Falls, Texas, December 1.

J. Everett Pickering, M.D., to Miss Mildred Frances Bliss, both of Coldbrook Springs, Mass., November 29.

Lester Brooks Rogers, M.D., to Miss Louise Tarbell, both of New York City, at Garden City, N. Y., recently.

Paul Randolph Stalnaker, M.D., U. S. Navy, to Miss Florence Dana West of Austin, Texas, November 10.

J. W. S. Cross, M.D., Telluride, Colo., to Miss Ethelwyn A. Davenporte, of Picton, Ont., in Denver, November 19.

Patrick F. Griffin, M.D., Honesdale, Pa., to Miss Jennie Renn, of Bloomsburg, Pa., in New York City, November 25.

Deaths

Andrew J. McCosh, M.D., one of the most prominent surgeons of the east; died in the Presbyterian Hospital, New York, December 2, from injuries received in a runaway accident four days before, aged 50. Dr. McCosh was a son of the late President James McCosh of Princeton University. He received his A.B. and A.M. degrees from Princeton University, was graduated from the College of Physicians and Surgeons, New York City in 1880, and was given the honorary degree of LL.D. by Columbia University in 1905, and by Princeton University in 1906. He took a course of postgraduate study in the University of Vienna in 1882, and in 1883 began practice in New York City. He served his alma mater as clinical lecturer in surgery and later as professor of clinical surgery. For the last nineteen years he was a member of the staff of the Presbyterian Hospital as visiting surgeon, attending surgeon, and surgeon-in-chief; he was also attending surgeon to Roosevelt Hospital. His society memberships included the American Medical Association, the American Surgical Association, International Surgical Society, and American Society of Clinical Surgery. At the recent meeting of the International Medical Congress he read an interesting and important paper on peritonitis. Dr. McCosh won distinction not as a specialist, but as a general surgeon. While going on a professional errand November 28, one of his horses became frightened at an automobile, the buggy was overturned, and Dr. McCosh was dragged in the wreckage. He was taken to Presbyterian Hospital, where it was found that he had suffered a fracture of the base of the skull, a compound fracture of the clavicle, and other injuries, which, together with a pneumonia that developed from the exposure, caused his death four days later.

Francis J. Ives, M.D. U. S. Army; University of Virginia, Charlottesville, 1878; a member of the American Medical Association and Association of Military Surgeons of the United States; who entered the medical corps of the Army in 1881; and twenty years later was promoted to major and surgeon; served as brigade surgeon during the Spanish-American War; won especial praise for the conduct of his field hospital at the battle of El Caney; served later in the Philippine Islands and in China; and later on was in charge of the general hospital in Manila and was retired on account of physical disability a few weeks ago; died at his home in Washington, D. C., November 27, from cirrhosis of the liver, arising from tropical service, aged 51.

William Wallace Woodring, M.D. Miami Medical College, Cincinnati, 1867; University Medical College of Kansas City, 1898; a member of the American Medical Association; formerly president of the Sanpete County (Utah) Medical Society; a member of the board of delegates of the Utah State Medical Association and of the National Council of Medical Legislation for Utah; a member of the U. S. Pension Examining Board; local surgeon of the Denver and Rio Grande Railway; and health officer of Mount Pleasant, Utah; a Confederate veteran; died at Holy Cross Hospital, Salt Lake City, November 22, from uremia, aged 67.

William Miller, M.D. University of Pennsylvania, Philadelphia, 1875; a member of the American Medical Association; for six years a member and for four years secretary of the State Board of Medical Examiners of Texas; health officer of Kendall County and city physician of Rockport, Texas; founder and physician-in-chief of St. Mary's Sanitarium, Boerne, Texas; died recently at his home in Ormond, Fla., from uremia, aged 52.

Luther G. McCollum, M.D. Maryland Medical College, Baltimore, 1904; a member of the Medical Association of the State of Alabama; and a prominent young practitioner of Birmingham; died at St. Vincent's Hospital in that city, November 24, from septicemia, aged 26. The Jefferson County Medical Society, at a special memorial meeting held the same day, passed resolutions regarding Dr. McCollum's death.

James Hall Heed, M.D. Tulane University, New Orleans, 1868; Jefferson Medical College, Philadelphia, 1870; for many years a member of the American Medical Association; a member of the Michigan State Medical Society; a Confederate veteran; died suddenly at his home in Battle Creek, Mich., November 25, from cirrhosis of the liver, aged 64.

Rush J. Shank, M.D. University of Michigan, Ann Arbor, 1871; a member of the Michigan State Medical Society; a veteran of the Civil War and department commander of the G. A. R. of Michigan in 1874 and 1875; a member of the common council of Lansing; died at his home in that city November 25, from peritonitis, aged 59.

William Elwin Rogers, M.D. Georgetown University, Washington, D. C., 1904; a member of the Medical Association of the District of Columbia and the District of Columbia Mental and [illegible] member of the staff of Providence [illegible] died in that institution, November 22, aged 30.

Ernest A. Matthaei, M.D. College of Physicians and Surgeons, Chicago, 1895; of Chicago; a member of the Illinois State Medical Society; associate in obstetrics at the Evangelical Deaconess Hospital, and assistant in surgery in the Chicago Polyclinic Hospital, died December 4, in Sierra Madre, Cal., aged 40.

Benjamin F. Dexter, M.D. College of Physicians and Surgeons, New York City, 1876; a veteran of the Civil War; and a police surgeon of New York City for more than twenty-five years; died at the home of his niece near Lockport, N. Y., November 16, from senile debility, aged 78.

George Edward Babbitt, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1876; of East Orange, N. J.; died at the Orange Memorial Hospital, November 23, from fracture of the base of the skull due to a kick by a horse in a runaway accident the day before, aged 49.

Gabriel Pellet Reeves, M.D. New York University, New York City, 1845; for a long time physician of Orange County, N. Y., and secretary and treasurer of the county medical society; died at his home in Yonkers, N. Y., from senile debility, November 25, aged 88.

Henry Frederick Angle, M.D. University of Pennsylvania, Philadelphia, 1869; formerly of Williamsport, Md.; sometime physician to the Washington County Almshouse; died, November 20, at his home in Brockton, Mass., from heart disease, aged 68.

Lucius Cary Allison, M.B., C.M. University of Edinburgh, Scotland, 1868; from 1873 to 1891 a member of the visiting staff of the General Public Hospital, St. John, N. B.; died at his home in St. John, November 26, from heart disease, aged 63.

Jeremiah Johnson, M.D. University of Maryland, Baltimore, 1852; for a number of years a resident of Waverly and physician of Wood County, W. Va.; died at the home of his daughter in Hagerstown, Md., November 30, from paralysis, aged 79.

Charles Williams Bailey, M.D. University of Maryland, Baltimore, 1889; a member of the American Medical Association; for 14 years in the U. S. P. H. and M.-H. Service; died at his home in Georgetown, S. C., November 24, aged 39.

Handley Nelson Bushnell, M.D. New York University, New York City, 1848; for many years a practitioner of Cape Vincent, N. Y.; died at the home of his daughter in East Orange, N. J., November 28, from senile debility, aged 81.

Reuben Camp Baldwin, M.D. Castleton (Vt.) Medical College, 1851; for nearly half a century a practitioner of Oswego, N. Y.; died at the home of his daughter in Syracuse, November 6, from senile debility, aged 84.

James Harvey Bates, M.D. Long Island College Hospital, Brooklyn, 1875; for many years a practitioner of Chicago; died in St. Luke's Hospital in that city, December 3, from postoperative pneumonia, aged 68.

De Witt Clinton Fowler, M.D. College of Physicians and Surgeons, New York City, 1863; died in his apartments in the Commercial Club, Aberdeen, S. D., November 25, from cerebral hemorrhage, aged 71.

Richard Thomas Gott, M.D. University of Maryland, Baltimore, 1868; subregistrar of the State Board of Health of Maryland; died at his home in Poolesville, November 26, from kidney disease, aged 64.

Henry Reder, M.D. New York University, New York City, 1880; formerly president of the Board of Health of Aurora, Ill.; died at his home in that city, from cirrhosis of the liver, November 23, aged 56.

Granger V. Randall, M.D. Chicago Homeopathic Medical College, 1883; a member of the Michigan State Medical Society; died suddenly at his home in Tecumseh, Mich., from pleurisy, November 25, aged 50.

Edward E. Collins, M.D. New York University, New York City, 1857; for forty years a practitioner of Minnesota; died in Unadilla Forks, N. Y., November 20, from intestinal obstruction, aged 75.

James M. Harris, M.D. Bellevue Hospital Medical College, New York City, 1868; of Yellow Springs, Ohio; formerly professor in Antioch College; died recently, in the Isle of Pines, Cuba, aged 70.

Chauncey B. Fowler, M.D. Long Island College Hospital, Brooklyn, 1878; a member of the Medical Society of the State of New York; died at his home in Brooklyn, October 30, aged 60.

Thomas Monroe Lanahan, M.D. Cleveland University of Medicine and Surgery, 1893; died at the home of his parents in Southington, Ohio, November 28, from heart disease, aged 39.

Harvey F. Craig, M.D. Baltimore University, 1888; of Griffithsville, W. Va.; died in the Charleston (W. Va.) General Hospital, November 24, from cerebral hemorrhage, aged 47.

Walter A. Bacon, M.D. Baltimore University, Maryland, 1898; of Pawtucket, R. I.; died at the home of his sister in Riverside, R. I., November 22, from nephritis, aged 35.

Vernon Amasa Dunshee, M.D. College of Physicians and Surgeons, Chicago, 1905; formerly of Palatka, Fla.; died in Asheville, N. C., November 19, from tuberculosis, aged 29.

Albert Burke, M.D. Baylor University, Dallas, Texas, 1903; a member of the American Medical Association; died at his home in San Antonio, Texas, November 21, aged 42.

William James Grimes, M.D. Jefferson Medical College, Philadelphia, 1881; a member of the Medical Society of Virginia; died at his home in Norfolk, November 28, aged 54.

Edward Anthony Mock, M.D. Bellevue Hospital Medical College, New York City, 1896; died at his home in Cambridge, Ill., November 21, from heart disease, aged 37.

T. A. Benbow (License, Colo., 1885); for more than thirty-three years a practitioner of Colorado; died at his home in Colorado Springs, November 18, aged 77.

Washington L. Hood, M.D. University of Georgia, Augusta, 1887; died suddenly at his office in Nicholson, Ga., November 18, from heart disease, aged 54.

Howard Finch Hawkins, M.D. College of Physicians and Surgeons, Baltimore, 1896; died at his home in Pine, Colo., Nov. 30, 1907, aged 34.

Joseph J. Judy, M.D. Eclectic Medical Institute, Cincinnati, 1866; died at his home in San Antonio, Texas, from paresis, September 1, aged 69.

Sylvanus F. Cosgrove, M.D. Cincinnati College of Medicine and Surgery, 1875; died at his home in Swanton, Ohio, November 23, aged 61.

A. San Martin, M.D. professor of surgery at the University of Madrid; former senator and cabinet minister; died November 9. He was at one time editor of the *Siglo Medico*, and always took a leading part in all matters affecting the welfare of the profession and the progress of science. The issue of the *Siglo Medico*, November 14, describes his career and last sickness with the autopsy findings—his will bequeathing his body to the dissecting table as his last contribution to science.

Sir Henry Pitman, M.D. Cambridge, 1841; F.R.C.P., London, 1845; registrar of the Royal College of Physicians, London, from 1858-1880; lecturer on "Principles and Practice of Medicine" and later consulting physician to St. George's Hospital, London; died at his home in Enfield, Middlesex, England, November 6, aged 100.

Society Proceedings

COMING MEETINGS.

Southern Surgical and Gynec. Assn., St. Louis, Dec. 15-17.
Western Surgical and Gynec. Assn., Minneapolis, Dec. 29 30.
American Assn. of Anatomists, Baltimore, Dec. 29-31.

SOUTHERN MEDICAL ASSOCIATION.

The Necessity of Pure Food and Drug Regulation and the Education of the People in the Prevention of Disease.

Second Annual Meeting, held at Atlanta, Ga., Nov. 10-12, 1908.

(Concluded from page 1995.)

Dr. D. Harvey Dillon, New Orleans: We should have uniform laws throughout the states regulating the sale of food and drug products, not only to protect the consumer, but in justice to the manufacturer and dealer. The laws in the various states are so different as to the labeling and branding of food and drug products that it costs the manufacturers of the United States large sums of money to comply with them. If the legislatures of the various states would give to their respective boards of health authority to write a sanitary code and a pure food and drug law, it would then be possible through the national association of health officers to formulate a uniform law.

Toxic Arthritis of the Hip Joint in Children; Diagnosis and Treatment.

Dr. Michael Hoke, Atlanta, Ga.: There is a non-tuberculous, non-articular hip inflammation occurring in children and young people in their teens and presenting all the symptoms and physical signs of tuberculosis of the hip joint. In the last eighteen months 45 patients with hip-joint disease (children and young people), presenting the classical signs and symptoms of tuberculosis of the joint, have come to me for treatment. Of these, 33 were not tuberculous, and in 4 cases the diagnosis is not yet safe. The remainder were positively tuberculous.

Tuberculin in Diagnosis and Treatment of Surgical Tuberculosis.

Dr. R. Tunstall Taylor, Baltimore, summarizes his paper practically as follows: The *x*-ray is the best aid to the clinical diagnosis of tuberculous bone disease. The subcutaneous injection of large doses of tuberculin (1 to 5 milligrams) in children is to be condemned for diagnosis; it is unnecessary, with the other means at our disposal, because harmful and possibly dangerous. Patients with syphilis and leprosy also respond to these large doses. The ocular tuberculin test may cause corneal ulcers and serious eye inflammations in 2 per cent. of the cases, and is, therefore, not to be used from choice. The von Pirquet skin reaction is reliable, safe and valuable, especially in conjunction with the clinical symptoms and the *x*-ray, in children. Tuberculin TR. in doses of from 1/1000 to 1/500 mg. and the fresh-air treatment should be used as a routine in all tuberculous bone and joint cases in an endeavor to immunize the patient. Thorough fixation and traction in all acute cases, and in the spine hyperextension, in addition, are of the greatest importance in treating the local disease. Hyperemia and bismuth paste are valuable additions to treatment. Tuberculous secondary abscesses should not be opened, unless there is some decided reason therefor, and, if opened, should be immediately sutured tight after the pus is evacuated. Otherwise a secondarily infected sinus will surely result, with its train of unfavorable symptoms. Operations on the joints of children should be avoided if possible. Not so with adults.

Discussion on Tuberculosis.

Dr. A. Duval Atkinson, Baltimore: The cases reported by Dr. Hoke, in my opinion, are due not so much to gastrointestinal intoxication as to infection through the tonsils. It has been proved in the last three or four years that the tonsils bear a close relationship to the joints, especially to all inflammatory conditions of the joints. I believe if Dr. Hoke would remove the tonsils by a thorough dissection in the beginning of these cases he would get quick and permanent results.

Dr. William J. Butler, Chicago: The tuberculin test, as all other reactions having their basis on immunity, must be considered as a systemic reaction, and as diagnostic only in this direction, and as not diagnostic of a local organic condition. In order to aid in the local diagnosis in tuberculous affections, as in joint lesions, the opsonic index, if employed following massage or other measures to increase hyperemia around the joint, may add greatly to our knowledge. In cases of glandular tuberculosis in which operation has been performed, recurrence taken place and tuberculin treatment instituted, the scars will frequently diminish and soften, so that the overlying scar tissue is freely movable over the underlying tissues.

Dr. Seale Harris, Mobile, Ala.: Regarding the cutaneous reaction, I had the opportunity of following a case with Dr. White at the Mobile City Hospital. A man was brought unconscious to the hospital, and the question of cerebrospinal meningitis came up. The cutaneous reaction was positive, and the man died a few days later. Autopsy showed that he had died from a cerebral hemorrhage, the result of syphilis. There was no trace of tuberculous infection anywhere in that man.

Dr. Taylor: I did not understand whether Dr. Hoke applied the guinea-pig test in these cases or not.

Dr. William Litterer, Nashville, Tenn.: The guinea-pig test is not only certain, but safe. The mere absence of the tuberculin reaction does not prove anything, although a positive finding after a subcutaneous tuberculin test is of distinct value. I have used the Calmette test in forty-five or fifty cases. In one instance a corneal ulcer followed the test, and since then I have abandoned it. I have found after using the subcutaneous test, making, say, three injections and getting a negative result, that if I then used the von Pirquet test I would get a positive result in every instance.

Dr. Owen, Atlanta, Ga.: Dr. Vaughn used the Calmette test on twenty medical students, and got positive results in six. Three weeks later the test was repeated and 57 per cent. gave positive results. The reason for this was that the patients had simply been sensitized. Dr. Vaughn found the same thing after injecting egg albumin. For instance, he injected guinea-pigs with egg albumin, and subsequent injections produced instant death.

Dr. M. Hoke: There was no trouble with the throat or tonsils in the thirty-three non-tuberculous cases. The bismuth paste has proved of value in some cases, but in others it has failed to do any good. I find that pure tincture of iodin injected into these sinuses is an exceedingly valuable remedy.

Dr. R. T. Taylor: Syphilis has been known to give a positive reaction to the skin test in cases in which the subcutaneous method was used. Syphilis responds to large doses of tuberculin.

Tumors of the Thorax with Abdominal Symptoms.

Dr. A. Duval Atkinson, Baltimore: Acute inflammatory diseases of the pleura and lung, of the pericardium, endocardium and myocardium, of the arterial system, especially of the transverse and descending aorta, and at times of the venous system within the thorax, at one time or another during their course may give rise to the following abdominal symptoms: Tenderness, either confined to a portion of the abdomen or to its whole surface; rigidity of the abdominal muscles; the respiration is of the costal type, and generally it will be found, if the hand is placed on the abdomen, that the spasm will relax momentarily at some time during inspiration; nausea, vomiting, distention, constipation. Fortunately there are some distinguishing features which are characteristic between this condition and peritonitis, especially if due to an acute pulmonary condition like pneumonia, namely, the relative disparity between the pulse and respiration. Often the respirations will register 40 a minute, while the pulse will be about 100. In addition, the respiration will usually exhibit that characteristic catch so commonly seen in pleuritic conditions. Another important point is the decidedly superficial character of the abdominal pain. Superficial palpation may elicit great pain, while really deep palpation may be permitted, even in children. It is of cardinal importance invariably to make a most thorough and careful examination of the thorax in all cases of abdominal lesions serious enough apparently to require operative interference.

DISCUSSION.

Dr. I. I. Lemann, New Orleans: I think every one has been struck by the frequency of abdominal pain in cases of pleurisy. In one case in which the patient was suffering from what appeared to be an alarming condition of the abdomen, I discovered a pleurisy, strapped the side, and the distressing symptoms cleared up in an hour.

Dr. H. L. Sutherland, Rosedale, Miss.: In a young man in whom a diagnosis of gall-bladder disease had been made, careful examination revealed lobar pneumonia.

Dr. J. A. Witherspoon, Nashville, Tenn.: I have seen abdominal pain a feature in pneumonia, empyema, acute plastic pleurisy, and mediastinal tumors. In one case a surgeon had diagnosed gallstones. An examination prior to operation revealed an empyema, but the surgeon was so sure of gall-bladder trouble that he operated, anyhow, and found a healthy gall bladder.

Dr. William J. Butler, Chicago: It has been found that in inflammatory changes in the abdomen there is an increased sensitiveness of the skin over the site of the inflammation, when compared with a corresponding area on the other side. This is especially valuable in gall-bladder affections and in appendicitis.

Dr. R. Tunstall Taylor, Baltimore: In considering abdominal pain we should bear in mind, when dealing with children, the abdominal pain is due to disease of the spine.

Dr. A. D. Atkinson: An interesting discussion is going on in this country and abroad in regard to the sensibility of the peritoneum. I rather think we can agree pretty thoroughly with Lennander, who did more work on this subject than any one else, that the visceral peritoneum is insensitive, but that the perietal peritoneum is extremely sensitive.

A Quick Method of Curing Beginning Gonorrheal Urethritis.

Dr. Edgar G. Ballenger, Atlanta: After having emptied the bladder the meatus is well washed with soap, and the anterior urethra is about half-filled with a 6 per cent. solution of argyrol with a blunt-pointed syringe. The sides of the meatus are compressed, the syringe removed, and the end of the penis thoroughly dried with sterile gauze. A piece of zinc oxid adhesive plaster, about an inch square, previously prepared, pressed against the meatus while its lips are being held closely together, seals the solution in the urethra. The solution is allowed to remain in the urethra for from three to four hours. Two such treatments should be given each day for two days, one on the third day, and a daily irrigation administered for two or three days longer. I have been surprised at the success attained by this method, and I believe the principle a rational one, which will prove of value to all who use it with discretion.

Symptomatology of Prostatitis.

Dr. William Cullen Bryant, *Atlanta*: The classical symptoms of acute prostatitis are apparent in every case, and the condition is easily recognized. On the other hand, the symptoms of chronic prostatitis are very varied, and it is necessary to classify them. I prefer the classification suggested by Young, of Baltimore, namely, urinary, sexual and referred. The urinary and sexual symptoms are well known, but to understand the referred symptoms it is necessary to study the nerve supply of the prostate. The prostate receives its sensory spinal fibers through the pudic nerve and sympathetic fibers from the hypogastric plexus. Through the influence exerted on the highly specialized and sensitive nerve endings in the prostate and prostatic urethra by the pathologic conditions resulting from chronic inflammation, painful impressions are carried along the afferent sensory fibers and by an irradiation or sort of overflow are felt in the area of distribution of those somatic sensory fibers taking origin from the same spinal segment as the visceral sensory fibers supplying the prostate. Thus we can readily understand the meaning of intense pruritus and through the inferior hemorrhoidal, pain in the perineum through the perineal, and the very frequently disagnosed sciatica and lumbago through the nerves coming off from the sacral and lumbar plexuses. Cases have been reported in which the symptoms simulated renal colic so closely that nephrotomy was performed and no stone found, the patients being afterward cured by prostatic massage.

Technic of Operation on Varicocele.

Dr. J. M. Jones, Atlanta: In cases of very large varicocele or very long scrotum, simple resection of the veins is not sufficient, and the technic I use is as follows: After resecting the veins by the Bennett-Howse method, a clamp is applied to the scrotum in such a manner as to allow the removal of the redundant portion. Twelve or fourteen silkworm gut sutures are introduced through the holes in the clamp. The ends of these sutures are then gathered into two bundles and clamped with hemostats. An incision is then made with a sharp scalpel through the skin about one-eighth inch from the clamp, the remaining tissues being cut through with strong scissors curved on the flat. The subcutaneous tissues, consisting of dartos and cremasteric fascia, are then sutured with a No. 0 plain catgut continuous suture. The first turns of a surgeon's knot are then made in the silkworm gut and drawn tight. The clamp is then removed, and after waiting a few minutes for the hemorrhage to cease the skin edges are brought together with a No. 0 plain catgut continuous suture. The silkworm gut sutures are then adjusted and the knots completed.

Appendicitis Mortality. Reports of Fatal Cases. Statistics.

Dr. F. W. McRae, Atlanta: Up to Nov. 9, 1908, I have done 574 operations for appendicitis, with 19 deaths, a small fraction over 3 per cent. mortality. These statistics include all my early cases, Grady Hospital work, operations done in home of patients (some living in hovels), private infirmaries, hospitals and sanatoriums, and cover a period of fifteen years. If we deduct deaths which I have included in the statistics due to coexisting or incidental diseases, it leaves 569 cases, with 14 deaths, a mortality of a little over 2 per cent., due directly to appendicitis and its complications following operative treatment.

Appendicitis in the Negro.

Dr. S. T. Barnett, Atlanta: This subject was first called to my attention by reading Dr. Kelly's work, in which he made the statement that appendicitis in the negro is practically unknown, citing a number of authorities. It happened at that time that I had had a series of four or five operations for appendicitis in the negro which were so typical and the pathologic findings of which were so characteristic that I could only believe that Dr. Kelly had been misinformed, that the disease was practically as frequent in the one race as another. I also wish to refute a statement that has been made that when the negro does have appendicitis the mortality is excessively high. I have removed the appendix from the negro twelve or fifteen times, and so far with a mortality of zero.

Other Papers Read.

Other papers read were as follows:

"Conservation of Energy and Multiple Operations in Surgical Work," Dr. R. R. Kime, Atlanta; "Some of the side Lines or Auxiliaries to the Surgeon," Dr. Shelby C. Carson, Greensboro, Ala.; "Tumors of the Bladder," Dr. A. L. Fowler, Atlanta; "Spinal Injuries, Real and Otherwise," Dr. W. W. Crawford, Hattiesburg, Miss.; "Traumatic Epilepsy," Dr. J. L. Crook, Jackson, Tenn.; "Recent Development in My Method of Treating Structural Scoliosis—Exhibition of Apparatus," Dr. Michael Hoke, *Atlanta*; "Treatment of Habitual Scoliosis by Passive and Active Correction," Dr. Theodore Yoepel, Atlanta; "Results Obtained with Vaccine in Chronic Infection," Dr. J. E. Paullin, Atlanta; "Report of Case of Erysipelas with Fatal Complications," Dr. Z. B. Chamblee, Birmingham, Ala.; "Treatment of Fistulous Tracts and Abscess Cavities by the Vaselin-Bismuth Paste Method," Dr. C. R. Andrew, Atlanta; "Radical Anorectal Surgery without General Anesthesia," Dr. A. B. Cooke, Nashville, Tenn.; "Urethral Stricture," Dr. W. L. Champion, Atlanta; "Anatomy of the Peritoneum and Gastrointestinal Tract from Standpoint of Development," Dr. W. B. Armstrong, Atlanta; "Intestinal Obstruction, Abstracts, Classification, Etiology, Symptoms, Surgical Treatment," Dr. I. J. Sellars, Birmingham, Ala.; "Postoperative Ileus, Early and Repeated *Operations for* Relief, with Report of Cases," Dr. F. G. Du Bose, Selma, Ala.; "Results Obtained with Radium *Treatment*," *Dr.* F. G. *Hodgson*, Atlanta; "Surgical Condition [illegible] iter," Dr. G. P. Huguely, Atlanta; "Recent [illegible] gnosis of Circulatory Disorders," Dr. Georg[illegible] "Tuberculosis," Dr. George Brown, Atlanta; "Tuberculosis Among the Negroes," Ex-Gov. W. J. Northern, Atlanta; "Health Conditions of the Negro in the South, with Special Reference to Tuberculosis," Dr. H. L. Sutherl[illegible] "Conservative Treatment of Hand Injuries by [illegible]" Dr. W. P. Nicolson, Atlanta; "Epithelial Sowing as a Method of Skin Grafting," Dr. L. W. Childs, Atlanta; "Etiology and Prophylaxis of Yellow Fever," Dr. J. H. White, New Orleans; "Spontaneous Symmetrical Gangrene (*Raynaud's* Disease)," Dr. T. D. Coleman, Augusta, Ga.; "Transfusion of Blood as a Therapeutic Measure in Pellagra," Dr. H. P. Cole, Mobile, Ala.; "Pellagra and Pellagraias," Dr. J. H. Randolph, Chattahocchee, Fla.; "Two Cases of Acute Cardiac Aneurism of Unusual Location and Rare Etiology," Dr. G. S. Bel, New Orleans; "Some Neglected Things in the Child's Development," Dr. M. McH. Hull, Atlanta; "*Nature and Treatment of* Neurasthenia," Dr. S. T. Rucker, Memphis, Tenn.; "Neurasthenia," Dr. H. M. Folkes, Biloxi, Miss.; "Nature and Treatment of Functional Neurasthenia," Dr. E. M. Hummel, New Orleans.

The officers elected were named in The Journal, November 21, page 1792.

Book Notices

Religion and Medicine. By Elwood Worcester, D.D., Ph.D., Samuel McComb, M.A., D.D., and Isador H. Coriat, M.D. Cloth. Pp. 427. Price, $1.50. New York: Moffat, Yard & Co., 1908.

The object of this book, as stated in the introduction, is "to describe in plain terms the work on behalf of nervous sufferers which has been undertaken in Emmanuel Church, Boston." It discusses the treatment of functional nervous disorders, and the authors say: "We make free use of moral and psychical agencies, but we do not believe in overtaxing these valuable aids by expecting the mind to attain results which can be effected more easily through physical instrumentalities. Accordingly we have gladly availed ourselves of the services of the skilled medical and surgical specialists who have offered to cooperate with us, and we believe that our freedom in this respect and the combination of good psychical and physical methods have had much to do with our success." The authors have confined their practice to that large group of maladies which are known as functional disorders, "because disorders of this nature are peculiarly associated with the moral life. An attack of typhoid fever may spring from no moral cause and it may have no perceptible influence on the character, but neurasthenia, hysteria, psychasthenia, hypochondria, alcoholism, etc., are affections of the personality. They spring from moral causes and they produce moral effects." In the tracing of this class of disorders to the personality rather than to the person, to moral rather than to material causes, lies the keynote of the success which attends the various systems of faith-healing, and no greater defense against their incursions can be found than a recognition and application of this fact by the medical profession and the public. Janet's method of bringing the obsessing idea "into the field of consciousness" as the first essential toward overcoming its effects, is a scientific application of this principle.

The present work is an exposition of what is known concerning the so-called subconscious mind, suggestion, autosuggestion, heredity and environment as causes of nervousness, the diseases of the subconscious, the nature and therapeutic value of hypnotism, fear and worry, etc. It is a work from which the practitioner, as distinguished from the specialist in psychiatry, will gain as much practical assistance in the comprehension of the personal factor in disease as from more strictly scientific and technical works on the subject.

When we come to the work as the symbol of the Emmanuel movement itself, we must confess that we are constrained by a certain hesitation. We are reluctant to discourage a movement which we believe to be established with the most laudable purpose in view, one which undoubtedly is effecting some good, and in all probability is not as yet offset by much accompanying harm. But the fact remains that few among the religious instructors who will sooner or later take up this work are equipped by training or otherwise to conduct such a movement. In other words, the men who started this movement will soon find that they have lost control of it and that it is in the hands of those who do not appreciate its limitations; thus much more harm than good will result.

The wise physician will welcome the assistance, in suitable cases, of the judicious and tactful minister of any religion; but he will shun the aid of one lacking those qualities.

Die Lehre von der Intubation. By Prof. Dr. J. von Bókay, Director of the Stefanie Hospital for Children in Budapest, Hungary. Paper. Pp. 250, with Illustrations. Price, $2.50. Leipsic: *Verlag von F. C. W. Vogel, 1908.*

This work is dedicated to Dr. Joseph O'Dwyer by Dr. von Bókay. The history of intubation is considered from its beginnings and due credit is given to Bouchut for the invention of his method of intubation, called "tubage," which was based on rational ideas and was developed by him in 1858. "Tubage" failed of success only because of the prejudice and unjust condemnation with which it was received by Bouchut's contemporaries, who were loath to abandon tracheotomy for it. A brief biography of O'Dwyer precedes a most detailed relation of the experiments of this genius, which made the difficult procedure of intubation so simple that it has become the property not only of specialists but of all physicians, and which led to the creation of a set of instruments so exactly adapted to the purpose that all attempts to improve them have merely proved aberrations from the true principles of their construction.

The technic of intubation is most elaborately considered, including all of the accidents and injuries which may occur in its performance. In addition to instrumental extubation, the "enucleation" method of Bayeux, in which the tube is expressed from the windpipe and larynx by stripping them from without by pressure on the neck is fully described. The important subject of the damage which may be done the larynx in the introduction, placing and extraction of the tube occupies 49 pages of the work. The first part of the book considers intubation in relation to diphtheritic laryngeal stenosis; the second, intubation for all other conditions creating obstruction in the larynx or upper trachea.

An important feature of the work is the chapter on intubation as an aid to tracheotomy, which has proved most satisfactory to Bókay.

Bókay's enormous experience in intubation and tracheotomy fit him peculiarly to give a clear, logical and elaborate consideration of intubation. His book may be heartily recommended as a model reference handbook on intubation. It omits nothing, is easily read and is designed to help the physician in general practice and the specialist as well by its judicious advice in difficult situations. A translation of this useful work into English is to be desired.

Ueber Appendicitis Waehrend Schwangerschaft und Geburt. Von Gerhard Renvall. Paper. Pp. 117. Price, $1.00. Berlin: Verlag von S. Karger.

In this volume is discussed a topic of vital interest to the general practitioner, the surgeon and the obstetrician, namely, the prognosis and treatment of pregnancy complicated by appendicitis. After reviewing the experience of others, and especially the results of operative interference in cases of appendicitis occurring during pregnancy, the author advances the following propositions as to the indications for emptying the uterus: In diffuse peritonitis in the last stages of pregnancy, or in cases accompanied by severe septic manifestations after the period at which the fetus is viable, the uterus should generally be emptied by *accouchement forcé*, even if labor pains have not begun; and the delivery should be followed by a laparotomy. If labor pains are present, or if the fetus is dead, an evacuation of the uterus should precede laparotomy, at least in the latter half of pregnancy, and also at an earlier stage if circumstances require it. Exceptions may be made in special cases. Twenty-three new cases are reported in detail from the clinic of Prof. Otto Engström of Helsingfors, and two from the practice of Prof. A. Krogius. The book concludes with brief abstracts of 253 cases from the literature and a full bibliography.

Sanatoria for Consumption and Certain Other Aspects of the Tuberculosis Question. Supplement in Continuation of the Report of the Medical Officer for 1905-06, to the Thirty-fifth Annual Report of the Local Government Board, 1905-06. Paper. Pp. 670, with Illustrations. Price, $1.25. London: Darling & Son, 1908.

This is a supplement to the Report of the Medical Officer for 1905-6 to the thirty-fifth Local Government Board of Great Britain. The volume consists of 670 pages, discussing all aspects of the sanatorium question. A discussion of the advisability of the notification of cases of tuberculosis is added, in which both the advantages and disadvantages of compulsory notification are set forth. While no definite conclusion is drawn, it is admitted that although the useful effects of notification are not as yet very apparent, it is too early to condemn the measure. The report is profusely illustrated with tables and plates.

Text-Book of General Bacteriology. By Edwin O. Jordan, Ph.D., Professor of Bacteriology in the University of Chicago and in Rush Medical College. Cloth. Pp. 557, with illustrations. Price, $3.00. Philadelphia: W. B. Saunders Co., 1908.

Jordan's "General Bacteriology" is an unusually well-written text-book. It is destined to occupy a large field of great usefulness because it meets the needs, not only of the medical student, but also of the general scientific student and reader who is interested in the relations of microbes to disease and in their growing importance to agriculture, to sanitation and to many industries. It is needless to say that an exhaustive discussion of all sides of bacteriology is not intended and would have been quite impossible within the compass of the book. It aims to be a general introduction and, with due regard to perspective, bestows emphasis on general principles rather than on special questions, main stress always being placed on the medical side of the subject. We are familiar with no book on bacteriology that will serve so well the needs of the busy physician—and there are many such—who feels a desire to go over again the general subject of bacteriology in the light of the latest advances and additions to our knowledge. A pleasant and profitable task is in store for him, because this book is interesting and stimulating reading and remarkably up to date. The style is clear and crisp. Professor Jordan is not only master of the subject, but also a skilful writer; witness the introduction in which the chief historical facts in regard to the discovery of bacteria and the origin, scope and biologic significance of bacteriology are admirably set forth. One quotation may be permitted: "The new conception of the microscopic underworld which bacteriology brought into biologic science must be reckoned as a conspicuous landmark, and, in so far as it has changed the attitude of man toward the universe, should be reckoned as one of the most important triumphs of natural science." The book bears the scholar's hall-mark. There is an index of names, as yet an uncommon luxury in American text-books. The biographic references are given according to a fixed plan and not in the incomplete and haphazard manner so often seen in our books and articles, even in those with some pretensions to scholarship. The references call the attention of the reader to articles of historical or classical interest, to valuable summaries and to articles dealing with subjects under active investigation or concerning which there is variance of opinion. In the next edition reference should be made to the fundamental but often overlooked work of Denys and his pupils on the mechanism of phagocytosis. To many, remarks concerning such matters as references may seem wholly unnecessary, but they are not trivial, for the careful, conscientious attention to detail exemplified in this book makes for better scholarship and promotes scientific exactness. Writers of medical text-books should use Jordan's book as a model.

Die Lehre von der Kongenitalen Tuberkulose mit besonderer Berücksichtigung der Placentartuberkulose. Von Anton Sitzenfrey, I. Assistenten der Universitätsfrauenklinik und Privatdozenten für Geburtshilfe und Gynäkologie an der Universität in Giessen. Paper. Pp. 156, with illustrations. Price, $1.40. Berlin: Verlag von S. Karger, 1909.

The origin of this treatise is the suggestion of Professor von Franqué to Dr. Sitzenfrey that he should investigate thoroughly the subject of tuberculosis of the placenta with relation to the doctrine of the hereditary character of tuberculosis and the existence of a hereditary predisposition to the disease. The work involved a great deal of investigation and a thorough search of the literature, as is evidenced by the citing of nearly 200 references. The monograph contains 156 pages, with a number of good illustrations. Much new histologic matter is introduced and the general conclusion reached that, although the placentar cases are comparatively few, and although observation indicates that healthy children can be born when the placenta is diseased, nevertheless the rarity with which thorough investigations are carried out on the placenta and the possibility of bacilli reaching the fetus by other channels than the placenta or of their passing through the placenta without leaving any trace of their passage shows this method of infection to be of greater importance than has been generally supposed.

Pathologic Technic. By Frank Burr Mallory, A.M., M.D., Associate Professor of Pathology, Harvard University Medical School, and James Homer Wright, A.M., M.D., S.D., Director of the Pathologic Laboratory of the Massachusetts General Hospital. Fourth Edition. Cloth. Pp. 480, with illustrations. Price, $3.00. Philadelphia: W. B. Saunders Co., 1908.

The text-book of Mallory and Wright is designed as a guide to the making of postmortem examination and the subsequent histologic and bacteriologic investigations. The fourth edition has been carefully revised for the correction of errors and a few changes have been made. A few methods have been omitted and a number of new ones, which have stood the test of time and trial, have been added. Prominent among the added bacteriologic methods are those for the detection and differentiation of the typhoid bacillus, especially when occurring in the feces. Various methods for tissue-staining, as for the detection of glycogen, lime salts and the *Spirochæta pallida* have been introduced. The book is well illustrated and ought to prove of value to practitioners and students, as well as to the pathologists.

Subcutaneous Hydrocarbon Protheses. By F. Strange Kolle, M.D., Author of "The Recent Röntgen Discovery," Etc. Cloth. Pp. 153, with illustrations. Price, $2.50. New York: The Grafton Press.

The author reviews the literature, selects from it such data as he deems necessary for a full presentation of the methods of paraffin prothesis now in use, and combines with them the results of his own experience. He warns against striving for the unattainable; a surgeon can not remodel malformations as a sculptor would clay. He cautions against filling out defects such as saddle-nose at one sitting, stating that the work must be done slowly, giving the injections time to adjust themselves to the tissues before others are attempted. He gives in semitabular form a list of difficulties and dangers to be looked for and avoided, and enumerates the untoward results which are liable to follow imperfect technic. There are several half-tone illustrations showing conditions "before and after," and a complete bibliography is appended.

Spectacles and Eyeglasses, Their Forms, Mounting and Proper Adjustment. By R. J. Phillips, M.D., Late Adjunct Professor of Diseases of the Eye, Philadelphia Polyclinic and College for Graduates in Medicine. Cloth. Pp. 91, with illustrations. Price, $1.00. Philadelphia: P. Blakiston's Son & Co., 1908.

The fourth edition of this little book, which has proved of so much value to opticians and those ophthalmologists who attend personally to the adjustment of the glasses they prescribe, has benefited considerably by revision. It is almost indispensable to one who fits glasses; and familiarity with its contents is advisable for any ophthalmologist since proper adjustment of lenses is one of the essentials of satisfactory refraction. The constant advances made in the art of spectacle-fitting and the many new and perfected methods in the manufacture of bifocals which are being brought forward, make a revised edition necessary. It is gratifying to note that all innovations which possess real merit have been given due recognition in Dr. Phillips' work.

Clinical Diagnosis: By Charles Phillips Emerson, A.B., M.D., Late Resident Physician, The Johns Hopkins Hospital. Cloth. Second Edition. Pp. 686, with illustrations. Price, $5.00. Philadelphia: J. B. Lippincott Co.

This edition embodies a careful revision, in which fully one-half of the work has been rewritten, necessitating a considerable increase in the number of pages. The subject of the bacteriology of the sputum and urine and a number of new illustrations have been added. The book includes many methods which the general practitioner can not employ, but concerning which it is desirable that he should be informed, and this book makes it possible for him to obtain such knowledge conveniently. The volume is well illustrated.

Angina Pectoris. Von Dr. Louis Peiser, Arzt am deutschen Hospital und deutschen Dispensary der Stadt New York. Paper. Pp. 106. Stuttgart: Verlag von Ferdinand Enke, 1908.

This monograph offers an exposition of the subject of angina pectoris and of pseudoangina, together with a consideration of the etiology and diagnosis of arteriosclerosis, to which is attributed the origin of the anginal disease. Peiser regards the pathology of angina vera as identical with that of arteriosclerosis of the coronary arteries. The treatment of both varieties of angina is considered at length, much stress being laid on prophylactic measures.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Second Series. Vol. xiii. Periodicity-Prussia. Cloth. Pp. 929. Washington: Government Printing Office, 1908.

This volume of the second series of the Index-Catalogue extends from "periodicity" to "Prussia," and includes 5.556 author entries representing 3,250 volumes and 4.851 pamphlets, 7.678 subject entries of separate books and pamphlets, and 40.221 titles of articles in periodicals. It is needless to comment on the value of this monumental work.

Miscellany

Universal Sphygmomanometroscope.—At Janowsky's clinic at St. Petersburg the blood pressure in the upper extremities is determined by comparison of the findings of five different apparatus. These include the Riva-Rocci cuff, the tonometer, the two spring manometeras of Basch and the water manometer of Zipliaef-Janowsky. Privat docent N. van Westenrijk of St. Petersburg has succeeded in combining these various apparatus in a single one in which one mercury manometer answers for all. It is arranged so that the zero point can be adjusted, and it allows comparison of the findings with different technics and registration of the pressure up to 350 mm. mercury. The mercury tube R (Figs. 1 and 3) opens below into the reservoir R', the graduated scale (Figs. 1 and 4) being fastened between the mercury tube and the reservoir. The whole is mounted on a weighted wooden standard. The right hand branching arm of the reservoir R' (Fig. 2) is connected with the tube which forks to the Riva-Rocci cuff E (Fig. 1), the Gaertner tonometer ring D, the Basch contrivance for determining the pressure in the capillaries F, the rubber bulb for determining the blood pressure in the veins G, and the rubber bulb H for increasing the pressure in the glass chamber F. All these are controlled with stopcocks in the tubes. The left hand branching tube from the reservoir R' is connected with the rubber bulb A, which is compressed by a screw lever to increase the pressure (Fig. 1) in the cuff and ring and also in the manometer. The tube B, with its two enlargements and capillary lumen, runs in the groove K, and is brought into connection separately with the cuff, ring, etc., on the other side of the reservoir R', by turning the stopcock C. The apparatus allows the Riva-Rocci cuff to be used for tonometry as well as in the usual manner. The illustrated description is published in the *Mitteilungen der Gesellschaft für innere Med.*, vii, 202, 1908.

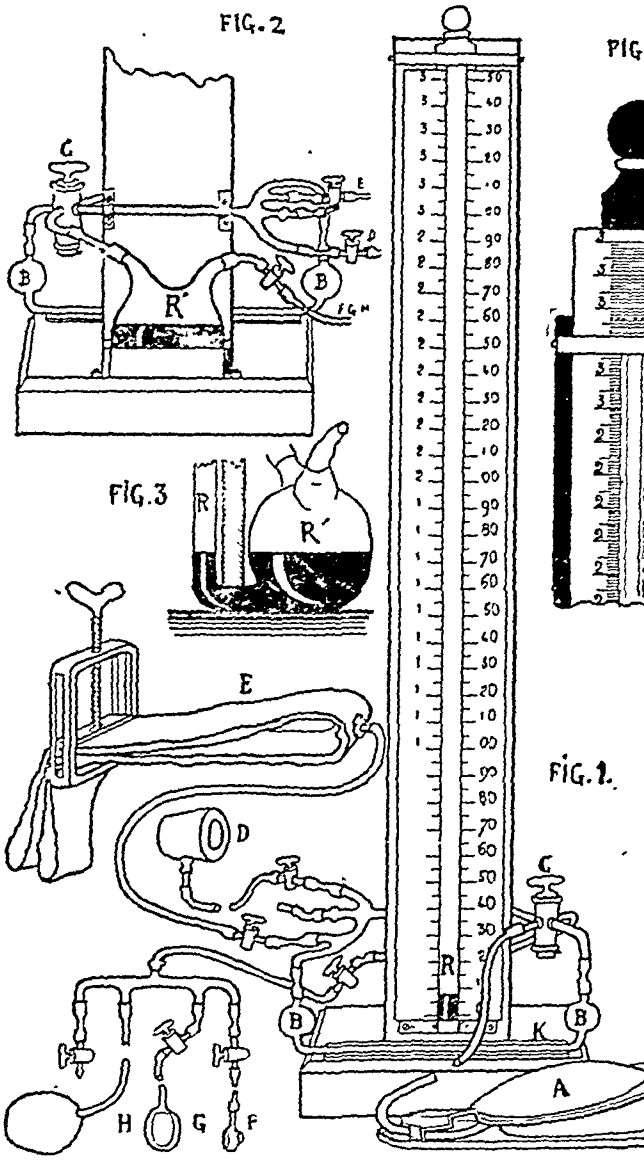


FIG. 2

FIG. 4

FIG. 3

FIG. 1.

Fifty Years of Scotch Lunacy Administration.—Fifty years covers a period of many changes in any department of medicine, but in none more certainly than in the treatment of the insane. This is more especially true regarding the Scotch asylums, as they were at the beginning of this period rather behind the rest of the world. According to John Keay, who writes in the *Caledonian Medical Journal*, October, 1908, "during the earlier years of the nineteenth century the condition of the insane of the poorer class in Scotland, whether in asylums or out of them, was just about as bad as it could be." Ignorance and lack of authority for needed reforms on the part of the board of supervision and indifference on the part of the public are assigned as the causes of this condition. It was left to an American lady, Miss Dix, to inaugurate the movement for investigation and reform. The commission appointed reported in 1857, revealing an amount of misery and wretchedness and a callous indifference to suffering which were absolutely appalling. After some opposition a General Board of Commissioners in Lunacy for Scotland was appointed, district boards formed and district asylums erected and many reforms instituted. In the twenty-third annual report of the commissioners in 1881 the most noteworthy changes that had been made were shown to have been manifested in three directions: 1, In the greater amount of liberty accorded to the patient; 2, in the increased attention that is devoted to their industrial occupation; and, 3, in the more liberal arrangements that are made for their comfort. Keay notes further progress shown at the present time in the following respects: The hospital spirit and methods have been introduced into asylums. The scientific study of insanity is encouraged and the institutions have been transformed from asylums for the safe-keeping and detention of dangerous members of society into hospitals for the cure of mentally afflicted persons. Nurses have been especially trained for the purpose, and the introduction of female nurses has contributed largely to the improvement. The asylums of Scotland have not prosecuted original research on insanity to the extent that those in some other countries have, largely because of the insufficient funds and equipment of the individual asylums. To remedy this a laboratory of the Scottish asylums has been established, where important scientific and practical work has been done by Dr. Ford Robertson. The segregate or villa system of asylum-building marks the tendency to approximate as closely as possible the conditions of ordinary general society life in asylum management. Bangour Village, of which Dr. Keay is superintendent, was constructed by the Edinburgh District Board of Lunacy on this plan in 1898. Other Scotch asylums are being arranged in the same manner. The last characteristic of the modern treatment of the insane, as contrasted with that of the last century, is the provision of the care of the patient in incipient cases in special wards apart from asylums. While such wards have not as yet been established in general hospitals, some parochial boards have provided accommodations for a few patients. The benefits have been so manifest that more general extension of them has been provided for. It is proposed to open such wards in connectin with the Royal Infirmary.

The Effects of Thyroidectomy on the Mammalian Pituitary.—P. T. Herring (*Quart. Jour. Exper. Physiol.*, 1908, i, No. 3) sets forth what he considers histologic evidence of the interrelation of function of the pituitary body and the thyroid gland. The effects of the removal of the thyroid on the pituitary have been noted by Stieda, who describes a hypertrophy of the glandular part of the latter after thyroidectomy; and by Rogowitsch, who states that in those animals which survive thyroidectomy the function of the thyroid is taken over and maintained by an increased functional activity of the pituitary. Herring reports very little change of structure in the glandular part of the pituitary body in all of the animals from which he removed the thyroid, but finds histologic alterations in the pars nervosa and pars intermedia, and in the ependymal cells of the third ventricle. These changes, together with results which he obtains from his extensive comparative histologic studies of the pituitary (*Quart. Jour. Exper. Physiol.*, i, No. 2) lead him to the following conclusions:

The pituitary body produces a secretion (other than the internal secretion), which passes through the pars nervosa to enter the infundibular space. Here it combines with a kind of secretion of the ependymal cells, the combined secretions passing to the third ventricle of the brain to become a part of the cerebrospinal fluid. The secretion of the pars nervosa is of a colloid appearance and is markedly increased after thyroidectomy. The most striking changes are manifested in the nervous part of the posterior lobe and in the laminæ forming the floor of the third ventricle. In these situations granular, hyaline or colloid bodies become very numerous." "The significance of these changes is as yet undetermined," and the nature of the colloid of the pituitary and its relations to the active substances of the posterior lobe are unknown.

Indications of a Special Secretion in the Testicles Before Puberty.—Schmaltz (*Arch. f. Mikr. Anat.*, lxxi, No. 1) endeavors to prove that the testicles of young animals are active in producing a special secretion before the age of puberty is attained. This secretion passes out through the walls of the seminiferous tubules and is carried by the dilated lymphatic vessels of the connective tissue stroma. It is of a watery serous nature and does not represent mucoid or fatty degeneration of parenchymatous cells, as has been reported by some, since it gives none of the ordinary reactions for either. The significance of this secretion and its possible influence on the development of the accessory genital organs (prostate, etc.) have not been determined.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

Virginia: Lynchburg, Dec. 15-18. Sec'y., Dr. R. S. Martin, Stuart.

New Hampshire: Concord, Dec. 29-30. Regent, Mr. H. C. Morrison.

Louisiana October Report.

Dr. F. A. LaRue, secretary of the Louisiana State Board of Medical Examiners, reports the written examination held at New Orleans, Oct. 1-2, 1908. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 21, of whom 13 passed and 8 failed. Four reciprocal licenses were granted at this examination. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Atlanta School of Medicine	(1908)	83.2
Louisville and Hosp. Med. Coll	(1907)	87.6, 92.8
Louisville Med. Coll	(1907)	84.2
Tulane University of Louisiana	(1899)	77.8
Flint Med. Coll	(1905) 78.8; (1908)	78.8
Maryland Med. Coll	(1903)	81.6
Jefferson Med. Coll	(1908)	93
Medico-Chirurgical Coll., Philadelphia	(1908)	92.4
Chattanooga Med. Coll	(1901)	84.8
University of Nashville	(1908)	78.6, 84.6
FAILED.		
University of Georgia	(1908)	65.6
Kentucky School of Med	(1883) 69.6; (1908)	73
Louisville Med. Coll	(1898) 22.0; (1907)	38.6
Flint Med. Coll	(1901)	71.4
Memphis Hosp. Med. Coll	(1893) 65.6; (1902)	69.2

LICENSED THROUGH RECIPROCITY.

College	Year Grad.	Reciprocity with
University Med. Coll., Kansas City	(1908)	Missouri
Jefferson Med. Coll	(1896)	New York
Vanderbilt University	(1908)	Texas
University of Texas	(1895)	Texas

Pennsylvania June Reports.

The Medical Council of Pennsylvania reports the written examinations held by the several boards at Philadelphia, Pittsburg and Harrisburg, June 23-26, 1908. The number of subjects examined in was 7; percentage required to pass, 75.

At the examination held by the State Medical Board, at Philadelphia and Pittsburg, June 23-26, the total number of candidates examined was 395, of whom 362 passed and 33 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Total No. Exam'd.
Howard University	(1908)	2
Georgetown University	(1908)	3
College of P. and S., Chicago	(1906) (1907)	2
American Med. Miss. Coll	(1906)	1
National Medical University, Chicago	(1908)	1
Kentucky School of Med	(1906)	1
Louisville Med. Coll	(1907)	1
Johns Hopkins Med. School	(1, 1903) (2, 1908)	3
College of P. and S., Baltimore	(1, 1907) (9, 1908)	10
University of Maryland	(1, 1901) (2, 1908)	3
Baltimore Med. Coll	(1, 1899) (10, 1908)	11
University of Michigan	(1, 1907) (2, 1908)	3
St. Louis University	(1908)	1
Ensworth Med. Coll., St. Joseph	(1892)	1
University and Bellevue Hosp. Med. Coll	(1907) (1908)	2
New York Univ. Med. Coll	(1898)	1
Leonard Med. School	(1906) (1907) (1908)	3
Starling Med. Coll	(1903)	1
Starling-Ohio Med. Coll	(1908)	1
Cleveland Coll. of P. and S	(1907)	1
Western Reserve University	(1908)	2
Medico-Chirurgical College, Philadelphia, (1900) (1906) (1907)	(52, 1908)	55
University of Pennsylvania (1900) (3, 1906) (7, 1907)	(88, 1908)	99
Jefferson Med. Coll.	(1905) (6, 1906) (9, 1907) (70, 1908)	86
Woman's Med. Coll. of Pennsylvania	(1906) (12, 1908)	13
Western Pennsylvania Med Coll	(2, 1908) (45, 1907)	47
Temple Coll., Med. Dept	(1908)	7
University of Basel, Switzerland	(1899)	1
FAILED.		
Howard University	(1907)	1
National Medical University, Chicago	(1906)	1
Kentucky School of Med	(1907)	1
University of Maryland	(1903) (1906)	2
Maryland Med. Coll	(1906) (1907)	2
Baltimore Med. Coll	(1899) (1907) (1908)	3
College of P. and S., Baltimore	(1908)	1
Tufts Coll. Med. School	(1907)	1
Detroit Coll. of Med	(1906)	1
St. Louis Coll. of P. and S	(1904)	1
Leonard Med. School	(1907)	1
Western Pennsylvania Med. Coll	(6, 1907) (4, 1908)	10
Medico-Chirurgical College, Philadelphia	(1905) (1908)	2
Temple Dept., Med. Coll	(1908)	1
Jefferson Med. Coll	(1908)	1
University of Rome, Italy	(1904)	1
University of Naples, Italy	(1905) (1906)	2
University of Vienna, Austria	(1903)	1

At the examination held by the Homeopathic Medical Board at Philadelphia, June 23-26, the total number of candidates examined was 28, of whom 27 passed and 1 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Total No. Exam'd.
Maryland Med. Coll	(1907)	1
University of Michigan	(1908)	1
Columbia University, Coll. of P. and S., New York	(1906)	1
Cleveland Homeo. Med. Coll	(1908)	3
Western Pennsylvania Med. Coll	(1908)	1
Hahnemann Med. Coll., Philadelphia	(1898) (1905) (18, 1908)	20
FAILED.		
Hahnemann Med. Coll., Philadelphia	(1907)	1

At the examination held by the Eclectic Medical Board at Harrisburg, June 23-26, the total number of candidates examined was 20, of whom 16 passed and 4 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Total No. Exam'd.
University of Louisville	(1907)	1
Medical School of Maine	(1879)	1
Maryland Med. Coll	(1907)	2
Baltimore Med. Coll	(1907)	1
Atlantic Med. Coll	(1908)	1
Albany Med. Coll	(1901)	1
Eclectic Med. Inst., Cincinnati	(1905) (2, 1908)	3
Medico-Chirurgical College, Philadelphia	(1905) (4, 1908)	5
Hahnemann Med. Coll., Philadelphia	(1908)	1
FAILED.		
Maryland Med. Coll	(1907)	1
Baltimore University	(1904)	1
University of the South	(1904)	1
University of Naples, Italy	(1904)	1

Arizona October Report.

Dr. Ancil Martin, secretary of the Board of Medical Examiners of Arizona, reports the written examination held at Phoenix, Oct. 5-6, 1908. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 8, of whom 5 passed and 3 failed. The following colleges were represented:

PASSED

College.	Year Grad.	Per Cent.
University of Southern California	(1907)	75.5
Hering Med. Coll	(1908)	78.5
Northwestern Univ. Med. School	(1903)	84
Jefferson Med. Coll	(1906)	76.4
National Med. Coll., Mexico City	(1901)	76.2

FAILED.

College of P. and S., Los Angeles	(1906)	72.8
Pulte Med. Coll	(1901)	68.5
University of Tennessee	(1907)	74.6

Iowa September Report.

Dr. Louis A. Thomas, secretary of the Iowa State Board of Medical Examiners, reports the written examination held at Des Moines, September 16-18, 1908. The number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 33, of whom 26 passed and 7 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
College of P. and S., Chicago	(1908)	87.4
American Med. Miss. College	(1899)	76.2
Hahnemann Med. Coll., Chicago	(1908)	80.1
Bennett Coll. of Ecl. Med. and Surg	(1908)	76.2
University of Iowa	(1908)	80.6, 81.5, 84.4, 88.1
Drake University	(1908)	78.6, 79.6, 86.4, 86.5, 86.7, 88.1, 89.4
Keokuk Med. Coll., Coll. of P. and S.	(1908)	75.1, 78.7, 79.4, 80, 82.2.
Johns Hopkins Univ. Med. School	(1906)	88
St Louis University	(1908)	81.1
University of Pennsylvania	(1907)	90.5
University of Tennessee	(1898)	89.5
Western University, London, Ontario	(1907)	81.1
University of Naples, Italy	(1890)	75.2

FAILED.

College of P. and S., Chicago	(1905)	73.7*
Drake University Coll. of Med	(1908)	73.6
State Univ. of Iowa	(1906)	71.2*
Keokuk Med. Coll., Coll. of P. and S.	(1906) 72;† (1908)	59.2* 73*, 73.2.*

* *Second examination.*
† Fourth examination.

Iowa October Reciprocity Report.

Dr. Louis A. Thomas, secretary of the Iowa State Board of Medical Examiners, sends the following report of reciprocal licenses issued at the meeting held by that board Oct. 15, 1908:

College.	Year Grad.	Reciprocity with
Medical College of Georgia	(1908)	Georgia
Rush Med. Coll	(1901) Illinois; (1893)	Wisconsin
Northwestern Univ. Med. School	(2, 1907) (1908)	Illinois
College of P. and S., Chicago	(1905)	Illinois
Illinois Med. Coll	(1907)	Illinois
American Med. Miss. Coll	(1899)	W. Virginia
University of Iowa, Homeopathic Dept	(1897)	Michigan
Johns Hopkins Univ. Med. School	(1907)	Maryland
University of Michigan	(1888)	Michigan
Homeopathic Med. Coll. of Missouri	(1908)	Missouri
Barnes Med. Coll	(1902)	Nebraska
Washington University, St. Louis	(1907)	Missouri
University of Nebraska	(1908)	Nebraska
Medical College of Ohio	(1902)	Illinois
Woman's Med. Coll. of Pennsylvania	(1908)	Maryland
Meharry Med. Coll	(1906)	Kansas

Arkansas October Report.

Dr. F. T. Murphy, secretary of the State Medical Board of the Arkansas Medical Society, reports the written examination held at Little Rock, October 13, 1908. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 30, of whom 18 passed, including 4 non-graduates, and 12 failed, including 5 non-graduates. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Keokuk Med. Coll., Coll. of P. and S.	(1908)	79
College of P. and S., Kansas City	(1903)	78
Kentucky School of Med	(1907)	78
University of Louisville	(1908)	77, 81
Tulane University of Louisiana	(1905)	88
St. Louis University	(1908)	78
Barnes Med. Coll	(1904) 76; (1908)	89
Washington University	(1907)	75
Jefferson Med. Coll	(1908)	83
Memphis Hosp. Med. Coll	(1908)	77
Meharry Med. Coll	(1908)	78
University of Texas	(1908)	84

FAILED.

Physio Med. Coll. of Indiana	(1897)	63
Ensworth Central Med. Coll	(1906)	62
Barnes Med. Coll	(1903)	66
Meharry Med. Coll	(1906) 55; (1908)	62, 72
Chattanooga Med. Coll	(1908)	66

LICENSED WITHOUT EXAMINATION.

There were also licensed at this examination four old practitioners, including one non-graduate, who were granted license by reason of having been registered under the old law. The following colleges were represented:

College.	Year of Grad.
Louisville Nat. Med. Coll	(1898)
Missouri Med. Coll	(1880)
Vanderbilt University	(1897)

Arkansas Homeopathic 1908 Report.

Dr. P. C. Williams, secretary of the Homeopathic State Medical Board of Arkansas, reports the written examinations held at Little Rock April 1, July 11, and Oct. 13, 1908. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 15, of whom 4 passed, including one non-graduate, and 11 failed, including 5 non-graduates. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Hahnemann Med. Coll., Chicago	(1882) 81; (1908)	77
Kansas City Hahnemann Med. Coll	(1908)	80

FAILED.

College of P. and S., Dallas	(1908)	46, 48, 48, 51, 52, 70

Michigan October Report.

Dr. B. D. Harison, secretary of the Michigan State Board of Registration in Medicine, reports the written examination held at Lansing, Oct. 13-15, 1908. The number of subjects examined in was 14; total number of questions asked, 100; percentage required to pass, 75, and 50 per cent. on each subject. The total number of candidates examined was 13, of whom 9 passed and 4 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Chicago Homeo. Med. Coll	(1878)	87.4
Hahnemann Med. Coll., Chicago	(1902)	81.8
American Med. Miss. Coll	(1906)	85.4
Johns Hopkins Med. School	(1908)	87.4
Detroit College of Med	(1908)	80.6
Universit [illegible]	(1908)	83.9
Detroit [illegible]	(1908)	85.3
Columbi [illegible] and S., New York	(1892)	83.2
Trinity College, Ontario	(1903)	85.6

FAILED.

Louisville Med. Coll	(1902)	73.9
University of Louisville	(1908)*	
Kentucky School of Med	(1907)*	
Eclectic Med. Inst., Cincinnati	(1907)*	

* Cheated at examination—no marks allowed.

Mississippi October Report.

Dr. S. H. McLean, secretary of the Mississippi State Board of Health, reports the written examination held at Jackson, Oct. 13-14, 1908. The number of subjects examined in was 8; total number of questions asked, 64; percentage required to pass, 75. The total number of candidates examined was 101, of whom 31 passed, including 2 non-garduates, and 70 failed, including 35 non-graduates. The following colleges were represented:

PASSED.

College.	Year Grad.	Total No. Exam'd.
Chicago Coll. of Med. and Surg	(1908)	1
University of Louisville	(1908)	2
Tulane University of Louisiana	(4, 1907) (2, 1908)	6
Flint Med. Coll	(1908)	1
Mississippi Med. Coll	(1907) (1908)	2
Barnes Med. Coll	(1904)	1
St. Louis College of P. and S.	(1908)	1
Cornell Univ. Med. Coll	(1905)	1
University of Nashville	(1897) (1906) (1908)	3
Memphis Hosp. Med. Coll	(1903) (1905) (1907) (3, 1908)	6
University of the South	(1901)	1
Chattanooga Med. Coll	(1908)	1
College of P. and S., Memphis	(1907)	1
Vanderbilt University	(1908)	1
University of Virginia	(1905)	1

FAILED.

	(1907)	1
Denver and Gross Coll. of Med	(1902)	1
Hospital Coll. of Med., Louisville	(1908)	1
Louisville and Hosp. Med. Coll	(1908)	1
University of Louisville	(1908)	1
Kentucky School of Medicine	(1908)	1
Tulane University of Louisiana	(1905)	1
Flint Med. Coll	(2, 1907) (2, 1908)	4
Mississippi Med. Coll	(1908)	1
St. Louis Coll. of P. and S.	(1890)	1
Syracuse University	(1902) (1903) (1906)	3
University of Nashville	(1901)	1
University of Tennessee		
Memphis Hosp. Med. Coll	(1903) (1906) (4, 1908)	8
	(1904) (1901) (1903) (1908)	1
College of P. and S., Memphis	(1906) (2, 1907) (4, 1908)	7
Meharry Med. Coll	(1907)	1
University of the South	(1905)	1
Gate City Med. Coll		

Wyoming October Report.

Dr. S. B. Miller, secretary of the Wyoming Board of Medical Examiners, reports the written examination held at Laramie, Oct. 14-16, 1908. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. Only one candidate, a graduate of Trinity College, Ontario, 1887, appeared for examination and he passed with a grade of 88.3 per cent.

Medicolegal

New and Forceful Arguments Against Courts Having Inherent Power to Require Submission to Physical Examinations Before Trial.

The Supreme Court of Utah says, in Larson vs. Salt Lake City, that, on the question of the inherent power of a trial court to require the plaintiff in a personal injury case to submit to a physical examination before trial by a physician appointed by the court and, for a refusal to comply with the order to dismiss his case, the authorities are in hopeless conflict.

The courts asserting the power have quite generally held that the defendant has not the absolute right to the order, but that the motion therefor is addressed to the sound discretion of the court, and that the application should be made before entering on the trial; that the defendant has not the right to designate the physician by whom the examination is to be made, but that the examination should be ordered and conducted under the direction of the court whenever it fairly appears that important facts concerning the injury are only to be disclosed by such an examination, and that it may be made without injury to the plaintiff's health, or the infliction of serious pain, or indignity to, or an unreasonable or indecent exposure of, his person; and that while the court has no right, in the enforcement of the order, to compel the plaintiff to actually submit to the examination, the court may nevertheless, on the plaintiff's refusal to do so, dismiss the case or delay the proceeding until he complies with the order, or the court may decline to permit any evidence to be given to establish the injury. A few courts have held that, on a plaintiff's refusal to comply with the order, the court may punish him as for a contempt.

In many cases where courts have asserted the power it will be seen that the existence of the power was either assumed or merely asserted. In others, the courts, instead of discussing the source of the power, or undertaking to state by what authority such a power is exercised, have undertaken to give reasons why trial courts ought to have such a power, and why it ought to be exercised by them. The same thing is true of some text-writers.

Whenever the power of a court is invoked, in order that it may be lawfully exercised, it is essential to point to some constitutional provision or some legislative enactment or the common law authorizing it—not necessarily to some express provision or enactment, but to some provision where the right to exercise the power invoked is fairly implied, or where it may be necessarily inferred from the nature and constitution of the tribunal itself. But it was conceded in this case, and it has been many times declared by the courts asserting the power, as well as by the courts denying it, that there is no common-law precedent where such action of the court as here in question was ever exercised by law courts.

There can be no doubt that, in the absence of a statute, a law court is not authorized to compel a plaintiff, before trial, to appear before a notary public, or a commissioner appointed by the court, and there make answer to pertinent interrogatories propounded to him concerning his injuries, or concerning any other material issue in the case. If a statute is necessary to confer such a power on the court, this court does not see from what source it obtains the power to compel the plaintiff before trial to submit his person to a physical examination, and make answers to proper questions propounded to him by the physician making the examination. Or, if a statute is necessary to authorize a court to order an inspection and examination of property before trial, the court sees no good reason why a statute is not likewise necessary to authorize the court to compel a plaintiff in a personal injury case to submit his person before trial to a physical examination. The fact that a party having peculiar knowledge of a matter fails to bring it forward may raise a presumption or justify an inference in favor of his adversary's claim; or, if he withholds certain evidence with respect thereto, the inference may be justified that, if it had been produced, it would have been unfavorable to his case, but it furnishes no basis authorizing the court to make an order requiring him to divulge his knowledge before trial to his adversary, or to supply him with the means of obtaining it.

Furthermore, the power of the court to compel the plaintiff, in advance of the trial, to submit to a physical examination, in order that the defendant may ascertain the extent and character of the injuries and thus qualify witnesses, who may testify concerning them, is one thing. The power of the court, when the plaintiff has testified concerning his injuries, to compel him to exhibit the injured parts to the jury, when to do so does not involve an indecent exposure, is quite another and different thing.

If a plaintiff testifies concerning a wound on his arm, he may, in corroboration of his testimony, exhibit the wound to the jury. He may likewise be required to do so, at the request of the defendant, as a part of the cross-examination and as affecting the plaintiff's testimony. Though the plaintiff does not take the stand, but evidence has been given on his behalf concerning his injuries, he may nevertheless be called by either party and required in a proper case to exhibit the injured parts as corroborating or affecting the testimony which has been given concerning the injuries.

It may be asked why has not the court power to compel a physical examination in advance of the trial, but has power to compel the plaintiff to exhibit his wounds and injuries to the jury at the trial? The answer is simple. It is for the same reason that courts of law could not compel the inspection or production of private papers or documents in the possession or under the control of a litigant, but, if he came into court with the document or paper about him, the court could compel him to produce it. In the one instance the power to compel one suitor before trial to arm his adversary against himself or to furnish him evidence to enable him to maintain or defend his cause was not recognized; in the other, the right of each suitor was recognized to call any person possessed of facts as a witness, and to interrogate him concerning them. The plaintiff may be a witness in his own behalf. He may also be called as a witness on behalf of the defendant. He may be interrogated by either party concerning any fact within his knowledge. If he testifies concerning his injuries and is asked by either party to exhibit the injured parts to the jury, he, when the disclosure does not involve an indecent exposure, may not, any more than a witness on the stand who has been ordered by the court to produce a document in his pocket, decline to do so. The power which a court has to compel a witness to answer all proper questions propounded to him may also be exercised to compel the plaintiff to exhibit the wound or injury of which he testifies for the purpose of affecting his testimony. But to say that the plaintiff shall submit his person to a physical examination, in advance of the trial, in order that those examining him may become qualified as witnesses and be put in possession of facts theretofore unknown to them, is quite another and different thing.

Damages Recoverable for Miscarriage Caused by Injury.

The Supreme Court of Minnesota says, in the personal injury case of Morris vs. St. Paul City Railway Co., that at the time of the accident Mrs. Morris was pregnant, and the injury resulted in a miscarriage. The defendant company asked the court to instruct the jury that "damages in this case must be limited to such physical pain and suffering as was the direct result of the accident, independent of the question of the condition of pregnancy claimed on the part of the plaintiff," and that, "if you should find from the evidence that the act complained of was negligent, and that the accident resulted in a miscarriage, the damage resulting therefrom must be limited to such damages for such suffering and pain as the plaintiff suffered in addition to what she would have suffered and endured had she carried the child to the full period. If it should appear that there was an increased or aggravated mental or physical pain and distress in connection with such miscarriage, in addition to what the mother would have suffered if the child had been born at the proper time, or that her health had been impaired thereby, then she would be entitled to recover for such additional pain and suffering as she endured, in addition to what she would have endured as a consequence of her condition. If you find from the evidence that she did not suffer any additional pain from the miscarriage over what she would have suffered, had she borne the child at the expiration of the period at the proper time, then she is not entitled to recover anything for the miscarriage."

But the rule of damages for which the defendant company contended, the Supreme Court says, finds no support in the cases, and is, in the court's judgment, unsound in principle. It is advanced by Joyce in his work on damages (section 185), but is not supported by the citation of any authority.

At the time of this accident Mrs. Morris was pregnant, but she was in a natural and normal condition of health. The miscarriage resulted from the negligent act of the defendant company, and it should be required to pay the damages which resulted naturally and directly from its negligent acts. The fact that Mrs. Morris would, in the natural course of events, suffer more or less pain and anguish at the birth of her child, could not be properly taken into consideration. It was too remote, speculative, and uncertain to be taken as a basis for estimating damages. Her possible future suffering had no connection whatever with the suffering which resulted from the negligent act of the defendant company.

In other words, the court holds that when an injury to a woman results in a miscarriage she is entitled to recover such damages as will fairly compensate her for the pain and suffering occasioned by the miscarriage, but not for the pain and suffering occasioned by the loss of the child. The pain and suffering which the mother would have suffered when the child was born in the natural course of events can not be deducted from the pain and suffering occasioned by the miscarriage, which resulted from the defendant's negligence.

The verdict in this case, for $4,000, the court says was large; but, in view of the nature of the injuries and the impossibility of measuring the damages in such a case by any exact rule, the court can not say that it was so large as to suggest that it was the result of passion and prejudice on the part of the jury.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal.

November 26.

1 *Relation Between Human and Animal [illegible] with Special Reference to the Question of t[illegible] of Human and Other Types of the Tub. [illegible] Smith, Boston.
2 *Certain Evil Tendencies in Medicine and Surgery. M. H. Richardson, Boston.
3 *Comparative Value of Change of Climate and of Treatment in Sanatoria Near at Hand in Cases of Pulmonary Tuberculosis. C. E. Edson, Denver.
4 [illegible] Trichinosis: with Report of Case. W. R. Steiner, [illegible]
5 [illegible] or Periarthritis of the Shoulder-Joint [illegible] s.) (Continued). E. A. Codman, Boston.

1. Abstracted in The Journal, Oct. 10, 1908, p. 1259.

2. **Evil Tendencies in Medicine and Surgery.**—Richardson is struck by the widespread tendency at present toward hasty and ill-considered diagnosis, as contrasted with the thoroughness displayed in the clinical reports published in 1828 and 1829. He complains of the resort to the knife as the first step rather than the last, that makes, in his opinion, one of the most prolific of the evil tendencies of the time. The results of incomplete study are seen in those operations, which through either incorrect diagnosis or ill-considered indications, prove their own uselessness. He discusses wherein adequate study lies, and—contrary to the usual opinion, that facts are correctly observed, but conclusions drawn are not logical deductions—he believes that, as a rule, the conclusions are correctly drawn, but the observations themselves are incorrect. The extremeness of radical surgery—and this is sometimes more pronounced in strictly medical men than in surgeons—is exemplified by a case of an obscure swelling of the whole right lower extremity, in which the physician proposed, and this to the patient, not the surgeon, that the femoral vein should be cut down on and the thrombus removed. This, Richardson refused to do, as having nothing in common sense, practice, experience or experimentation, to commend it. While realizing that great advances in surgery have been made in the face of bitter, and as we now know unreasonable, opposition, Richardson defends this opposition as essential to wise and sure progress. If the example of McDowell had encountered no opposition there would have been an awful mortality and the progress of modern ovarian surgery would have been set back 100 years. He protests against the tendency toward operative diagnosis as tending to make ordinary diagnosis slipshod and inaccurate.

Medical Record, New York.

November 28.

6 *Differentiation of Outbreaks of Typhoid Due to to Infection by Water, Milk, Flies and Contacts. J. F. Anderson, Washington, D. C.
7 Rocky Mountain Spotted Fever. A. A. Robinson, Ogden, Utah.
8 Impressions Derived from a Visit to the Warm Springs of Virginia. A. H. Buck, New York.
9 Cholecystitis, with Suggestions for Prevention of Gallstones. H. W. Bettmann, Cincinnati.
10 Case of Syringomyelia. L. S. Manson, New York.

3. Abstracted in The Journal, Oct. 10, 1908, p. 1254.

6. **Differentiation of Typhoid Outbreaks.**—Anderson lays down the following characteristics of outbreaks of typhoid due to water:

1. General distribution of cases throughout the areas supplied by a particular water.
2. Explosive onset of the outbreak.
3. Seasonal prevalence: spring or late winter.
4. Comparative freedom from the disease of persons not using the suspected water.
5. Inspection of the watershed shows evident sources of infection.
6. The outbreaks may have begun or ended following a change of the water supply.
7. Bacteriologic and chemical examination reveals evidences of pollution.
8. Exclusion of all other probable causes.

The following points indicate strongly that the infection is being introduced through the milk:

1. Sudden outbreak of an unusual number of cases followed by a rapid decline.
2. The appearance of an unusual number of cases among the customers of a certain dairy.
3. Unusual incidence of cases among users of milk.
4. More cases among the well-to-do than among the poor.
5. The finding of the typhoid bacillus in the suspected milk.

The chief characteristics of outbreaks of typhoid due to transmission by flies and by contact are their local character, their appearance in places where the sanitary conditions are poor or where they are neglected, occurring during the fly season, in the case of fly transmission and among those most closely associated with the patient. There have been reported in the literature many interesting outbreaks of typhoid due to conveyance of the infection by oysters and other shellfish, fruits, vegetables, ice cream, watercress, celery, ice, etc.

New York Medical Journal.

November 28.

11 *The Red Cross in the Antituberculosis War. S. A. Knopf, New York.
12 *International Classification as Applied to Morbidity Returns. C. F. Mason, Washington, D. C.
13 At What Age Periods and in What Measure Has the Reduction in the Mortality Rate from Tuberculosis Manifested Itself in the City of New York During the Past Forty Years? W. H. Guilfoy, New York.
14 *New Method for the Transfusion of Blood. R. T. Frank, New York.
15 *The Public Health Plank. C. E. Wood, Chicago.
16 *Iron (Concluded). J. Knott, Dublin, Ire.
17 Adiposis Dolorsa with Involvement of Large Nerve Trunks. P. N. Bergeron, Philadelphia.

11. **Antituberculosis War.**—Knopf describes the work done by the German Red Cross in the fight against tuberculosis

and urges activity of the American Red Cross in the same direction. He pleads for support for the Red Cross Christmas stamp (see THE JOURNAL, Nov. 14, 1908, p. 1720), and believes that it will lead to a tuberculosis sanatorium with a pavilion for every state.

12. **The International Classification.**—Mason suggests the adoption of the international classification of the causes of death in use in the Army since 1904 for morbidity uses. He reproduces the tables with certain suggested changes

14 **Transfusion of Blood.**—Frank describes in detail a new method of transfusion at present tried only on animals. It consists essentially of the use of a link, made from the carotid of a dog, between the artery of the donor and the vein of the recipient, instead of dissecting out and uniting the two vessels directly. Frank has shown that an animal blood vessel does not tend to induce clotting during the transfusion.

15. **Public Health Plank.**—Wood discusses the proposition to create a public health department and urges in opposition thereto the Hepburn bill for the extension of the duties of the U. S. Public Health and Marine Hospital Service. He quotes almost *in extenso* a paper on the Public Health and Marine-Hospital Service by Surgeon G. B. Young.

16 **Iron.**—Knott concludes a learned dissertation on iron, metallic and magnetic, physical and philosophic, its place in mythology, demonology, astrology, and in medical and surgical therapeusis, which was begun in the issue of November 14. His practical conclusions are that our most reliable and clinical data have been furnished by empirical observations—not by scientific experiment or physical demonstration. While iron is specific in the anemia of chlorosis it is not equally trustworthy in other varieties of anemia. To obtain its advantages, the bowels must be kept open throughout. The combination with arsenic, in the author's personal observation, best secures advantageous results. The bird's eye historical view furnishes many instances of anticipation of modern practice. Knott hopes to aid in checking the prescription of 'tonic" iron in the anemia of intestinal irritability of tuberculous disease, to say nothing of the respective associations of fever, infancy and senility.

Lancet Clinic, Cincinnati.

November 21

18 *Clinical Conclusions as to the Value of Vaccine Therapy in Surgical Infections J C Hollister, Chicago
19 *Ignorance of the Significance of Middle Ear Disease. H M. Hays, New York
20 Extrauterine Pregnancy. W D Hamilton, Columbus.

18 Abstracted in THE JOURNAL, Oct 31, 1908, p. 1535.

19 **Ignorance and Middle-Ear Disease.**—Hays complains of carelessness in carrying out orders of the general ignorance of the seriousness of ear conditions, aside from pain and discharge, and of fear of operation. The last is largely eliminated in large cities: the two former factors disappeared only when a pain in the ear becomes to patients as significant of possible mastoid disease, as a pain in the right side is of appendicitis

Medical Fortnightly, St. Louis.

November 25

21 *The Prostate as a Factor in Nervous Disease. J L Boehm, St Louis
22 Threapeutic Treatment of Typhoid from Beginning to End C. F Wahrer, Fort Madison, Ia

21. **The Prostate and Nervous Disease.**—Boehm discusses syphilis of the prostate, the relation of the prostate to the spinal cord, neuralgia of the prostate, sexual neurasthenia, the medical aspect of rape and criminal assault, and the medicolegal state of sexual perversion. He concludes as follows:

1 The prostate and its appendages when diseased have a special influence on the nervous system, in close similarity to the nervous sequelæ of the diseased female pelvis

2 The prostate and seminal vesicle are to the neurotic male what the uterus and tubes are to the female, and must always be carefully examined in neuroses

3 Apparently simple disturbances of the prostate may cause serious reflex neurotic conditions, because of the complexity of the nervous mechanism surrounding and supplying it

4 The question of an internal physiologic secretion, and the possibility of the lecithin and organic constituents of prostatic secretion serving as a nutritive factor to nerve metabolism, has not yet been scientifically determined.

5 Spinal asthenia and cerebral exhaustion are commonly and often ascribed to overwork at the office or in literary pursuits, but not always recognized as dependent on a diseased prostate

6 In cases of sexual crimes and criminal perversion, an intrapelvic and extrapelvic examination of the genitalia of the accused should be made by expert urologists, at the same time that the expert neurologists examine the mentality of the accused

7. Jurists should recognize the mental condition of the fiend or pervert who commits sexual crimes, as not always due to a hereditary taint, but probably as commonly the result of some previous urethral disease, uncured at the time. From this chronic diseased condition sexual mania results

8 There is a medical aspect to the recent lynchings and riots, because the fiends responsible for them are diseased and are not human monstrosities Temporary sexual insanity is a reality as much deranged mentality caused by typhoid fever or some condition of hyperpyrexia.

Journal of Experimental Medicine, New York.

November.

23 *Relation of Lesions of the Adrenal Gland to Chronic Nephritis and to Arteriosclerosis; An Anatomic Study. R M Pearce, Albany, N. Y.
24 Experimental Reduction of Kidney Tissue with Special Reference to the Changes in That Remaining. J. A. Sampson and R. M. Pearce, Albany, N. Y.
25 *Occurrence of Catalase in Human Tissues and Its Variations in Diseases M C Winternitz and C. R Meloy, Baltimore
26 The Effect of Complete Anemia of the Central Nervous System in Dogs Resuscitated After Relative Death. G. Crile, Cleveland, Ohio, and D. H. Dolley, Chapel Hill, N C
27 Reactive Cell Proliferation in the White Rat; and Its Relation to the Genesis of Transplantable Tumors. I. Levin, New York
28 Factors in the Physiology and Pathology of Gastric Secretion. N B Foster and A. V. S Lambert, New York.

23. **Lesions of Adrenal Gland.**—Pearce shows that hyperplasia of the adrenal is an almost constant lesion in arteriosclerosis associated with chronic interstitial nephritis and left-sided hypertrophy, and that it occurs with almost equal frequency in arteriosclerosis with chronic nephritis of the parenchymatous type, and that it is also a frequent lesion of arteriosclerosis without nephritis and of nephritis without arteriosclerosis. Adrenal hyperplasia is consequently probably the result of some factor active in a period of life in which these affections are most frequent. The adrenal lesion consists of increase of connective tissue, round cell infiltration, increase in the thickness of the vascular wall and hyperplasia of the adrenal cells proper.

25. **Catalase in Human Tissues.**—Winternitz and Meloy find that the catalytic activity of human tissues varies greatly in disease. In nephritis the kidney always shows the most marked reduction in its power to decompose hydrogen peroxid, although other tissues, including the blood, may also show some decrease in this power. The activity of the blood in two cases of eclampsia was not reduced, and this is regarded as an important fact, because if it can be substantiated it will furnish a ready means of differentiating between eclampsia and nephritis.

Annals of Surgery, Philadelphia.

November.

29 *Use of Ethyl Chlorid as a General Anesthetic in the Pennsylvania Hospital W. E. Lee, Philadelphia
30 Ludwig's Angina J. W. Price, Louisville, Ky.
31 *Tumors of the Breast in Childhood. J. H. Jopson, J. Speese and C Y. White, Philadelphia
32 Biliary Calculus Weighing Two and One half Ounces Removed from the Common Duct. W. Bartlett, St Louis
33 Acute Dilatation of the Stomach Complicating Typhoid C. Wilson, Birmingham, Ala
34 *Acute Hematogenous Infection of One Kidney in Persons Apparently Well. F Cobb, Boston.
35 *Renal and Ureteral Surgery D N. Eisendrath and M. Herzog
36 *Arthroplasty for Complete Ankylosis of the Elbow. C L. Scudder, Boston.
37 Surgical Conditions in the Knee-Joint B. Tenney, Boston
38 *Operative Treatment of Fracture of Neck of the Femur in Adults. C P Flint, New York.
39 *Conservative Treatment of Fractures of the Femur. A. P C. Ashhurst and W A Newell, Philadelphia
40 Non Tuberculous Osteomyelitis of the Os Calcis. J. G. Sheldon, Kansas City
41 Silverized Catgut—The Argyrol Method. T. R. MacClure, Detroit

29. **Ethyl Chlorid.**—Lee discusses the use of ethyl chlorid in general anesthesia on a basis of 5,575 cases between December, 1907, and June, 1908. It was used alone in 947 cases, with ether in 4,148, and with various other anesthetics in the remaining cases. The youngest patient was 24 hours old, the oldest 84 years old. The fatalities were 5, all of them occurring when ethyl chlorid was used alone. The fact that the ethyl chlorid was given first and in all the cases in which

the patients were considered bad anesthetic risks distorts the statistics. Three deaths occurred under ether during its administration alone in 1,444 cases. The facts that ethyl chlorid can produce deep anesthesia in from 15 to 20 seconds, and that its danger signs are so easily overlooked, are emphasized. In alcoholics and some others it produces muscular spasm and rigidity. Its advantages, however, are tempting. There is no respiratory irritation, its action is rapid and the lessening of the amount of ether requisite in combined anesthesia saves the excretory organs. It is still used in the hospitals for minor surgical procedures, the dressing of the more painful wounds, and in combination with both ether and chloroform.

31. **Breast Tumors in Childhood.**—Jopson, Speese and White conclude that breast tumors, though rare in childhood, occur in both sexes and at all ages. The benign tumors are more frequent than the malignant tumors. Fibroepithelial growths are most common, then angiomata. Sarcoma occurs, but is rare. Carcinoma hardly ever occurs before puberty. Girls are more frequently affected than boys. Angiomata are commonly congenital; fibroadenomata develop with the approach of puberty. The small benign tumors occasionally cause no inconvenience. At other times, pain, tenderness, or discomfort from excessive weight or size are present. Sarcomata usually present their customary symptoms. Operation is usually indicated in the benign and always in the malignant varieties. In small benign tumors or those involving only limited areas, conservative plastic operations with preservation of breast and nipple are indicated; in a goodly number, however, the breast must be sacrificed. The axilla should be cleaned if it contains enlarged glands. The results of operation are good.

34. **Kidney Infection in Apparently Healthy Persons.**—Cobb points out that it is not well understood by the profession, that in persons apparently in good health septic infarcts of the kidney may be caused by bacteria, usually colon bacilli, circulating in the blood, and that the acute cases of this form of hematogenous infection can present a typical picture of certain of the grave abdominal emergencies—appendicitis, cholecystitis or visceral perforation, with abdominal tenderness and rigidity, vomiting, high pulse, temperature and leucocytosis. In persons apparently well the onset is usually acute and without warning. The course of the disease may be rapid, with increasing toxic symptoms, or after an acute onset the patient may go for weeks or months in a septic condition. The very acute cases are the ones which simulate most closely abdominal infections.

35. **Renal and Ureteral Surgery.**—Eisendrath and Herzog discuss multiple ureteral calculi, complicated by hypoplasia of the opposite kidney; renal lipoma *"ex vacuo"*; and rupture of the kidney.

36. **Ankylosis of the Elbow.**—Scudder reports a case of arthroplasty for complete ankylosis of the elbow, in which a year and a half after operation the joint was strong and serviceable—a little loose, but not a flail joint. On contraction of muscles the joint is as firm and secure as a normal one. The power of extension is preserved. The flail joint of an ordinary excision is to be avoided. A stable joint with power in extension is desirable. Power in flexion is naturally present. An arthroplasty preserves power in extension. Arthroplasty is especially applicable to the elbow joint—less so he thinks to the knee and hip.

38. **Fracture of the Neck of the Femur.**—Flint concludes that the conservative aim must as yet consist in an endeavor to obtain ankylosis. There will be some shortening and objective lameness, largely offset, however, by compensating tilting of the pelvis and lumbar curve of the spine. The least desirable result is to have the femur escape from the acetabulum and become displaced upward. The majority of the patients having had an excision will derive benefit, whereas the outcome of a pegging operation is far more doubtful and should therefore be limited strictly to the very few cases.

39. **Fractures of Femur.**—Ashhurst and Newell have studied 121 recent fractures of the femur in the Episcopal Hospital during the last three years, in which conservative treatment was employed of such a various nature as to be fully representative—longitudinal traction by Buck's extension apparatus with and without sand bags. Volkmann's sliding splint, the double inclined plane, Smith's anterior splint, and more complicated appliances. They conclude that, with the exception of four patients, the results of the conservative treatment of fractures of the femur, excluding those of the neck, were satisfactory; and they very much doubt whether operative treatment of such cases could do more than give entirely useful limbs in 90 per cent. of cases, and leave only one out of every three patients with no other functional impairment than a limp.

Journal of the Medical Society of New Jersey, Orange.

November.

42 *Acute Perforating Gastric and Duodenal Ulcer. E. Eliot, New York.
43 *Anterior Poliomyelitis. D. T. Bowden, Paterson, N. J.
44 *Modern Methods of Treatment of Posterior Displacements of the Uterus. J. W. Martindale, Camden, N. J.

42. Published in the *American Journal of Surgery*, October, 1908.

43. This article will be abstracted in the Department of Therapeutics.

44. Abstracted in The Journal, Aug. 22, 1908, p. 750.

Ohio State Medical Journal, Columbus.

November.

45 *Relative Indications for Cesarean Section. C. N. Smith, Toledo.
46 Roentgen Examination of the Esophagus. S. Lange, Cincinnati.
47 *Relation of Increased Blood Pressure to Cerebral Hemorrhage. C. W. Sawyer, Marion, Ohio.
48 *[illegible] Present Status of Its Medical and [illegible] F. Warner, Columbus.
49 [illegible] Standpoint. A. J. McCracken, Bellefontaine.
50 Psoriasis. V. P. Boreing, Lima, Ohio.
51 Uterine Action in Dry Labor. A. J. Skeel, Cleveland.
52 Infant Feeding. Comparison of Modern Ideas. A. J. Bell, Cincinnati.

45 and 48. Abstracted in The Journal, May 23, 1908, p. 1721.

47. **Blood Pressure and Cerebral Hemorrhage.**—Sawyer reports 16 cases of cerebral hemorrhage, in which blood pressure examinations were made, and summarizes practically as follows:

1. Patients with high tension pulse, no kidney lesion, and no previous hemorrhage are least likely to suffer from increased pressure.
2. Patients with kidney lesions which will not respond to treatment or whose blood pressure will not lessen, are liable to fatal uremia.
3. Nephritic patients with increasing blood pressure are especially liable to cerebral hemorrhage.
4. Increased blood pressure without a kidney lesion is more liable to terminate in hemiplegia than the one with such lesion.
5. Nearly half of all patients with increased blood pressure have hemiplegia; 50 per cent. have hemorrhages.
6. A second hemorrhage with hemiplegia due to hemorrhage already existing, but with no kidney lesion, is usually fatal.
7. Patients with nephritis and increased blood pressure are as liable to succumb to the second hemorrhage as to live.
8. Second hemorrhage occurring when both hemiplegia due to a former hemorrhage and nephritis exist are seldom fatal.

From this summary they conclude that while increased blood pressure bears a striking relation to cranial hemorrhage, it must not be used as an infallible sign of such an occurrence, but must be weighed in relation to other existing conditions.

Texas Journal of Medicine, Fort Worth.

November.

53 *(a) Intra-Abdominal Adhesions. (b) Can We Diagnose Foreign Substances in the Appendix? B. Saunders, Fort Worth.
54 Tuberculosis as a State Problem. R. L. Combs, Kerrville.
55 Importance of Autopsy Work in General Practice. J. M. Frazier, Belton.
56 Three Unusual Cases of Appendicitis. C. W. Trueheart, Galveston.

53. **Foreign Bodies in the Appendix.**—Saunders contends that a close scrutiny of the history of every case of appendicular complaint, together with a careful physical examination, will enable any really competent abdominal diagnostician to say with as much confidence that there are foreign bodies in the appendix, as he could for similar reasons forecast the presence of stones in the gall bladder.

Montreal Medical Journal.

November

57 *Study of Thomsen's Disease (Congenital Myotonia) by a Sufferer from It. A. Birt, Halifax, N. S.
58 Chorioepithelioma Malignum. F. A. L. Lockhart, Toronto.
59 The Gonococcus as a Factor in Infection Following Abortion or Full Term Delivery. F. B. Gurd, Montreal.
60 Uterine Inversion. D. Patrick, Montreal.
61 Autotoxemia of Pregnancy. H. L. Reddy, Montreal.
62 Cesarean Section. R. E. Webster, Ottawa.

57. **Congenital Myotonia.**—Birt gives an interesting study of Thomsen's disease in his own person. He first discovered it while a medical student, and the diagnosis has since been amply confirmed by experts. The condition consists essentially of a painless cramp, affecting groups of voluntary muscles when an effort is made to bring them into place. There results a sluggishness of action, which, however, wears off if the action continues to be repeated without intermission. In the author's case all voluntary movements are more or less affected, in proportion to the bulk of the muscular group involved. Other authorities to the contrary notwithstanding, Birt is convinced that the following factors are important in regard to the production of cramps: Prolonged rest of muscles; sudden and forcible attempt at contraction; mental excitement and emotion; direction of attention to it; cold and fatigue tend to aggravate the spasm at inception of movement. Small doses of alcohol diminish its severity. He considers that the disease is primarily a congenital functional defect in the mechanism of inhibition. Owing to the faulty functioning of the neurones concerned, the muscles at rest are kept in a state of hypertonus, and on attempting suddenly to contract a muscular group, the inhibitory "brake," so to speak, can not be taken off rapidly enough. This delay would represent the prolonged latent period and the moderately slow contraction. On attempted relaxation the disorder of inhibition is more than ever in evidence—the "brake" is taken off with greatly increased difficulty, and thereby is explained the persistence of the contraction and the remarkedly slow relaxation. The more powerful the contraction, the greater the inhibitory difficulty. The hypertrophy of the muscles would thus be a secondary development, dependent (a) on the state of hypertonus (kept up by the overactivity of the inhibitory mechanism) during rest; and (b) on the prolonged contractions and delayed relaxations constantly repeated. It is conceivable that the trouble might be aggravated by the excessive accumulation of the products of muscle waste during the prolonged contractions. This view would make the defect in Thomsen's disease comparable to that in stammering, and class it as a neurosis of the whole psychomotor tract. It accounts easily for the aggravation caused by depressing mental emotions, cold and fatigue, and the relief under the opposite conditions. The wearing off of the spasm on repetition of the movements would be explained by a rapid exhaustion of the excessive inhibitory impulses; and the early fatigue by the excessive accumulation of the products of muscle waste. The longer the period of rest, the greater the rapidly renewed power of the inhibitory "brake," and, consequently, the greater the tonic spasm on voluntary movement requiring powerful willing to overcome it. Birt is convinced of the important rôle played by the nervous system. Too little stress has been laid on other neuroses in the different family groups. In his own case, one sister deceased, showed it in a severe general form, one suffers from traces of it and two male maternal cousins also suffer from it; the nervous element predominates in the family. As regards prognosis, two points are of importance: First, the earlier in youth the diagnosis is made the more important in the choice of an occupation; and second the subjects are in more than ordinary danger of accident, as the sudden movement to get out of harm's way is often impossible. In treatment, nothing has proved of any avail.

Buffalo Medical Journal.

November.

63 *Sociologic Medicine. J. Ullman, Buffalo.
64 *Municipal Contagious Disease Hospitals—Their Medical and Financial Importance to the Community. R. J. Wilson, New York.

63. **Sociologic Medicine.**—Ullman emphasizes the need of a public health department in the cabinet, discusses the mortality of infant life, the newspaper alliance with quackery, the teaching, not only of hygiene and philosophy, but of social science and economics, in schools, the tenement evil, factory evils, the social evil, and the Food and Drugs Act. He points the moral of sociologic medicine as follows: The lesson must be brought home to the people, that they are responsible for much of the disease and suffering, and so it is now important to study the relations of home surroundings to disease.

64. **Municipal Contagious Disease Hospitals.**—Wilson urges the importance to communities of municipal contagious disease hospitals, and cites the Willard Parker Hospital in New York as an evidence of their importance and value. He discusses the cost and the economic relations of the hospital, and as to its situation he says it is not necessary to hunt for some secluded spot; the hospital should be so centrally located that ambulance calls will be as short as possible. The appellation, pest house, is responsible for much expense and distress. It calls up to mind loathsome things, things dangerous, to be avoided, and to be afraid of. Contagious diseases are not loathsome, and are not more dangerous when properly administered than other communicable diseases.

Louisville Monthly Journal.

November.

65 *Currents and Countercurrents in Medical Advance. A. R. Elliott, Chicago.
66 *Kidney Surgery. A. D. Bevan, Chicago.
67 *Tropical Diseases and the Mississippi Valley. G. Dock, New Orleans.
68 The Surgical Pendulum: A Plea for Conservative Surgery. W. F. Sterman, Winterset, Ia.

65, 66, 67. Published in *Lancet Clinic*, Oct. 17, 1908, and abstracted in THE JOURNAL, Nov. 7, 1908, pp. 633, 634.

Journal Tennessee State Medical Association, Nashville.

November.

69 Pure Food and Drug Inspection. L. P. Brown, Nashville.
70 *Secondary Repair of Complete Perineal Laceration. C. E. Ristine, Knoxville, Tenn.
71 Diseases of the Frontal Sinus and Their Surgical Treatment. C. M. Capps, Knoxville, Tenn.
72 *Movable Kidney, W. D. Sumpter, Nashville.

70. Abstracted in THE JOURNAL, April 25, 1908, p. 1372.

72. Abstracted in THE JOURNAL, May 2, 1908, p. 1454.

Medical Herald, St. Joseph, Mo.

November.

73 Pyloric Stenosis in Infants. H. M. McClanahan, Omaha.
74 *Regulation of the Practice of Medicine by the State. J. T. Clegg, Siloam Springs, Ark.
75 Relation of Heredity and Environment to Life Expectancy. L. H. Montgomery, Chicago.
76 Complications and Treatment of Granulated Lids. B. Pitts, St. Joseph.

74. **State Regulation of Medicine.**—Clegg urges that each state should employ a sanitary commission which should be the paid adviser and counsellor of the people on all matters pertaining to public health or the prevention of disease and should pass on the qualification of every one who may attempt to practice medicine by any system or method whatever; each state should endow a medical school for the better education of its medical students; and the medical profession should disseminate more information among the people.

Providence Medical Journal.

November.

77 Case of Pneumococcus Arthritis. G. S. Mathews, Providence.
78 *The Medical Examiner for Life Insurance; A Discussion of His Function in the Selection of Risks as Practiced in Modern Scientific Life Insurance. E. D. Chesebro, Providence.
79 Cardiac Disease and Tuberculosis in Relation to Pregnancy. H. G. Partridge, Providence.
80 Tumor of the Spinal Cord and Suppurative Pachymeningitis Externa. J. E. Donley, Providence.

78. **Medical Examiner.**—Chesebro discusses the principles of life insurance, the function of the medical examiner, and the defects of medical examiners. To overcome the last matter he suggests special education in the subject.

Annals of Otology, Rhinology and Laryngology, St. Louis.

September

81 Recurrent and Abductor Paralysis of the Larynx. Introductory Remarks on Anatomy and Physiology. Etiology of Paralyses of Central Origin. J. W. Gleitsmann, New York.

82 Recurrent and Abductor Paralysis of the Larynx, Diagnosis and Treatment. W. E. Casselberry, Chicago.
83 Etiology of Paralysis of the Recurrent Laryngeal Nerves of Peripheral Origin. D. B. Delavan, New York.
84 Etiology of Otosclerosis. T. J. Harris, New York.
85 Pathology and Prognosis of Chronic Progressive Hardness of Hearing—Otosclerosis. W. S. Bryant, New York.
86 Symptoms and Diagnosis of Otosclerosis. G. E. Shambaugh, Chicago.
87 Nonacoustic Functions of the Labyrinth: Review of Present Knowledge of the Organs of Static and Dynamic Equilibrium. P. Fridenberg, New York.
88 Chronic Recurrent Suppurative Otitis Media and Its Relation to Mastoid and Intracranial Complications. S. M. Smith, Philadelphia.
89 Surgical Principles Essential to the Cure of Frontal Sinus Empyemas. J. F. Barnhill, Indianapolis.
90 Acute Suppuration of the Labyrinth Following Acute Otitis Media—Operation; Recovery. E. B. Dench, New York.
91 *Black Hairy Tongue (Lingua Villosa Nigra). N. R. Blegvad, Copenhagen, Den.
92 Papilloma of the Larynx in Children. J. P. Clark, Boston.
93 Diagnosis of Otitic Brain Abscess. T. Heimann, Warsaw.

91. **Black Hairy Tongue.**—Blegvad gives an exhaustive study of black hairy tongue (*lingua villosa nigra*), based on 128 cases by 88 authors, to which he adds 10 cases from the Municipal Hospital of Copenhagen. On the back of the tongue of an otherwise healthy individual is found a brownish-black spot, just in front of the circumvallate papillæ and extending forward to about one inch from the tip. The spot is symmetrically arranged on each side of the median line, and the borders and tip of the tongue are covered with a whitish fur. The spot owes its appearance to long hairs, the prolonged papillæ filiformes. These have a length of from ¼ to ½ inch and are longest posteriorly and on both sides of the sulcus medianus linguæ. Thus the middle of the tongue may appear very deep as though defective. The surface of the tongue can be compared to a wet, long black-haired dog, or to a wet silk hat. The hairs are directed forward, and if the tongue is rubbed in the opposite direction the appearance just mentioned is noticed. The surface of the tongue is slimy and on the base and between the papillæ vallatæ there is a whitish fur that resembles thrush. On scraping the black spot the prolonged papillæ are easily cut off and do not leave a bleeding surface. They are conical, are black only at the apex of the cone, thick and gray at the base, and float in an opaque mucous fluid. The disease often presents no symptoms. At other times disagreeable and severe symptoms are present—dysesthesia and paresthesia of the tongue; sensation of dryness, tickling, etc., sometimes pain in the tongue or the gums; in some cases taste is weakened, in others increased to the extent of pain; *fetor ex ore.* Sometimes it lasts a few days, sometimes several months or years. Black tongue is only a symptom that in certain conditions accompanies different and acute chronic diseases. Blegvad discusses the pathology and says that he tried to cultivate a mould from the tongue, but while in all cases colonies of white and gray micro-organisms developed, there were no black or brown moulds. He discusses the etiology at considerable length and expresses his opinion that the disease originates in those persons with normally well-developed filiform papillæ which have become prolonged and stained from without. The hypertrophy may be due to irritation, nutritive disturbance, mouth-breathing, perhaps bacteria. The coloring he considers due to food and wine, tobacco, especially chewing, and drugs. Mouth-breathing may also play a part. He insists on the importance of tobacco in the etiology, and suggests the use of opium as a possible cause. He does not consider that there is any essential difference between black tongue and the ordinary furred tongue.

American Journal of Urology, New York.

November.

94 Formation of Calculi After Prostatectomy. E. Loumeau, Bordeaux, France.
95 Intravesical Operations without Knife or Anesthetic, with Special Reference to the Removal of Benign Tumors. H. Meyer, San Francisco.

Memphis Medical Monthly.

November.

96 The Heath Mastoid Operation. R. McKinney, Memphis.
97 Early Diagnosis of Pulmonary Tuberculosis. B. W. Fontaine, Memphis.
98 Immediate Results in a Case of Implantation of the Median Nerve. W. H. Baldwin, I. C. and Y. & M. V. R. R.
99 Advantages of Postgraduate Work in Europe. A. C. Lewis, Memphis.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

November 14.

1 *Clinical Examination of the Urine with Especial Reference to the Estimation of Urea. A. Foxwell.
2 Treatment of Acute Inflammatory Conditions by Bier's Hyperemia. G. B. Buchanan.
3 *Novel Method of Operation in the Removal of Malignant Tumors. H. Manders.
4 *Pathology and Treatment of General Paralysis and Tabes Dorsalis. W. F. Robertson.
5 *Typho-Bacillose. L. Landouzy.
6 Two Interesting Cases of Intussusception. R. F. Jowers.

1. **Examination of Urine.**—Foxwell discusses the physical, chemical and microscopic examination of the urine, and points out that such occasional examination is apt to be fallacious when individual findings are relied on, since all healthy organs can do work considerably beyond what they are normally required to do. He uses a system of average analyses, and as the result of a series of investigations made in patients suffering from various diseases, he considers specific gravity 1012, amount 50 ounces, urea 1.4 per cent., 310 grains, as the lowest average analysis which would enable a man to go about doing a moderate amount of work in the world. The lowest which would enable a man to get up and do light work which did not necessitate regular attendance, he considers 1011, 45, 1.2, 238, for such a man would often be invalided; while an analysis as low as 1010, 40, 1.0, 175 would necessarily confine him to bed; or if he got up, his manufacture of waste material would be greater than his removal of it, so that often severe breakdowns would occur, during which his nitrogenous intake would have to be of the smallest to enable equilibrium to be once more established. This is for men. Women would have a smaller excretion, but this decrease is shown, not in the strength of the solution, but rather in its amount. For the women with healthy kidneys had an analysis of 1019, 28, 1.8, and the men of 1019, 39, 2.1. The female kidney does work of equal quality, but of smaller quantity. There is nothing more striking than this maintenance of quality by the healthy organ; if there is less urea to be excreted, then the quantity of urine is lessened, not the strength of the solution. Hence the urea percentage and the specific gravity are the two important factors which indicate the degree of kidney damage. A patient with damaged kidneys promptly calls on the heart for aid, and his strength depends on the functioning power of both these organs, and not on the kidney alone. The increased cardiac action, by increasing the flow of blood through the kidneys, will enable these to secrete a greater quantity in any given time and so make up for the lessened quality.

3. **Operation for Malignant Tumors.**—Manders discusses the combined surgical and electrical treatment for cancer by Keating-Hart, termed by the author sideration (treatment by flashes) and renamed by Poggie "fulguration." The novelty in fulguration consists in the application of oscillatory electricity in combination with actual surgery. He describes the Keating-Hart apparatus and the two methods used, incorrectly termed bipolar and unipolar, respectively. Manders adds a third or intermediate method, not mentioned by Keating-Hart or others, in which the patient is treated by one phase and the other is supplied from the floor, walls, etc., of the room by connecting the proximal end of the inductance coil to the earth. The operation is divided into four stages: 1. The surgeon divides the tissues and lays bare the neoplastic masses without separating them. 2. The tumor is fulgurated by the strongest sparks so as to produce the greatest possible effect in the shortest time. The duration of this is from "a few minutes up to ten." 3. The surgeon excises the growth. 4. Fulguration again. Manders discusses the views of various authors and enumerates the demerits of the method, and adds: If fulguration has in any way reduced to a minimum the recurrence of cancer after operation the combined operation is fully justifiable and must be regarded as a distinct gain in treatment. The disadvantages, he says, may be obviated by a new method which he terms electroscision. The essence

of the technic is the utilization of the continuous and undamped oscillations of electricity instead of the intermittent and rapidly damped trains of oscillations employed in the production of fulguration. The principal differences between the two are that in fulguration the spark really resembles forked lightning in its discharge, for a violent stream of sparks springs from the electrode to the most salient points opposed to it, so that it is possible for a germ lying in a sulcus, or even well in the open, to escape its destructive influence. Like lightning, too, the spark is intermittent. Just as the condenser cloud has to be charged up again to the breaking point before another flash can occur, so must time elapse until the Leyden jars are again recharged by the coil or by the transformer, whichever is used. He describes the apparatus, which is extremely simple and much less cumbersome, and refers for a technical description to the *Journal of the Roentgen Society,* No. 17, Vol. 4.

4. **Tabes Dorsalis.**—After discussing the pathology of this condition, Robertson states that the facts recently observed have served to establish more securely the conclusions that general paralysis and tabes dorsalis are dependent on the presence of specific infective foci, primarily localized in the nasopharyngeal and oral mucosæ in the one case and in the genitourinary tract in the other, and that in both diseases the bacterial and toxic invasion is essentially lymphogenous, as maintained by Orr and Rows on the ground of their experimental work.

5. Abstracted in The Journal, Oct 17, 1908, p. 1359.

British Medical Journal, London.

November 14

8 *Arteries, Normal and Pathologic J A. MacWilliam and A H Mackie
9 Normal Venous Pulse T. Lewis
10 *Case of Adams Stokes' Syndrome Observed for More Than Eight Years W H Turrell and A G Gibson.
11 Plumbic Ocular Neuritis in Queensland Children J. L Gibson
12 *Influence of the Nervous System on Infective Processes. G. L Cheatle.
13 Mental Cripples G. H. Savage
14 *Tuberculosis in Limeworkers. E J B. Selkirk.

8 **Arteries.**—MacWilliam and Mackie have microscopically examined arteries from a large number of specimens, some obtained from amputated limbs after death by accident, drowning, etc., while the others covered a considerable variety of disease conditions. They give diagrams of numerous sections with descriptive notes, and conclude that when death occurs by a relatively gradual exhaustive process the state of the arterial muscle at the time of death may be such that its contractility soon disappears, instead of being capable of persisting for considerable periods, as in many cases of more sudden death and of amputation; though even in the latter cases there are wide variations as regards the behavior of the vessels after death, no doubt depending on varying conditions of arterial muscle at the time. They have not seen decided contractility in the human adult so late as two days after death. In children contractility may persist longer than in adults.

10 **Stokes-Adams Syndrome.**—Turrell and Gibson relate the details of a case under observation for more than eight years, in which, at autopsy, no gross change was present in regions occupied by the bundle of His or its branches Microscopically, there was a tendency to fibrosis in the region of the central fibrous body of the heart, extending downward and encroaching on the bundle. The bundle in the fibrous body itself was represented only by a few isolated strands of muscular tissue.

12. **Infective Processes.**—Cheatle considers the relationship between the nervous system and infective processes under two distinct heads, neurovascular and neurotrophic. He asserts that vasodilatation is not a marked feature of those infective diseases in which limitation to nerve area is most obvious, and that there is some factor of limitation other than pure vasodilatation to be considered in these cases A neurotrophic factor must be taken into consideration in the process of immunity.

14. **Tuberculosis in Lime Workers.**—Selkirk has investigated a general opinion among lime workers that they are exceptionally free from bronchitis and pulmonary tuberculosis. He was unable to find an instance of phthisis among them, nor could he learn on inquiry of any worker in lime kilns having died from tuberculosis. He asks whether those who inhale and swallow much lime are abnormally free from tuberculosis of the lungs. He discusses what is known of the therapeutics of calcium salts, and says it appears that the continued absorption of calcium from the lungs and intestines might maintain an abnormally high percentage of it in the blood. He suggests that the workingman predisposed to tuberculosis might turn his attention to lime and cement working as an occupation, and even hints at the organization of lime works as a curative tuberculosis colony. A rapid increase of weight is commonly observed in new workers at the Warren Cement Works at Hartleypool.

Medical Press and Circular, London.

November 11.

15 Treatment of Surgical Tuberculosis by Iodoform Glycerin and Bier's Congestion Method P Daniel
16 Salicylates in Diagnosis and Treatment A. Haig
17 Diagnosis and Treatment of Pancreatic Disease D. C. Watson.

Clinical Journal, London.

November 11

18 Prognosis in Tuberculous Affections of the Urinary Tract. W B Clarke
19 *Colostomy by a New Method, with Attempt at Sphincteric Control C Ryall

19 **Sphincteric Control in Colostomy.**—Ryall describes a new method of colostomy, in which the fibers of the rectus muscle are split longitudinally, a stout loop of fibers being detached from the posterior part of the muscle on each side of the line of cleavage. Each loop is then drawn over to the opposite side and made to overlap, the two overlapping loops forming a ring of muscle fibers through which the gut is drawn. The fibers above and below the gut are then brought together with sutures The greatest gentleness is called for. During healing some retraction of the gut takes place, so it is better to err on the safe side and leave a little too much gut protruding; it can be separated later. The author's experience of the control obtained by this method is encouraging, but it remains to be seen whether it will stand the test of time.

Journal of Obstetrics and Gynecology of British Empire, London.

October.

20 Two Cases of Enlarged Wandering Spleen Simulating Pelvic Tumor J E Gemmell
21 *Operative Treatment of Puerperal Fever Sir A Macan
22 *Problems in the Treatment of Puerperal Septic Diseases A K Gordon.
23 *Case in which Ovariotomy was Performed During Labor. J B Hellier
24 *Two Cases of Abdominal Hysterectomy for Rupture of the Uterus W. E Fothergill

21. **Puerperal Fever.**—Macan considers this subject under the following heads:

I THE SURGICAL TREATMENT OF LOCALIZED INFLAMMATIONS:
  1 Wounds
  2 Interior of the uterus
II THE EVACUATION OF COLLECTIONS OF PUS:
  1 In perineum and vagina
  2 In pelvic connective tissue
  3 In the abdominal cavity and pelvic peritoneum
III THE REMOVAL OR LIGATURE OF INFLAMED VEINS FOR PYEMIA:
IV THE REMOVAL OF THE UTERUS

The results that have hitherto been obtained by removal of the uterus in cases of bacteriemia occurring in the puerperal state are not encouraging. Three fourths of the patients who were operated on for retention of portions of the ovum after labor at full term died, and one half of those who were operated on for the same cause after abortion; while the mortality—when the indication was severe inflammation of the uterus—whether at full term or after abortion, was 76 per cent. As the general mortality of puerperal fever may be put down at from 15 to 20 per cent., and that of the worst cases 50 per cent., the removal of the uterus, even if confined to the worst cases, which is far from being the case up to the present, increases this mortality instead of diminishing it. The cause of death after the operation is most commonly general peritonitis, which, if not present before the operation is due to an infection of the peritoneum by the lochia, or an extension of inflamation from the stumps, or bacteriemia from these as a center. These dangers can certainly be lessened, and probably be entirely prevented, if proper precautions are taken, and if cases are excluded in which infective emboli are already present in the lungs, liver, spleen, or kidneys, even though the patient's general condition is not desperate. The danger of removal is also lessened by performing Porro's operation with thorough cauterization of the stump.

22. Puerperal Septic Disease.—Gordon reports and discusses cases, and concludes, among other things, that even if suppuration be present in the uterus itself, hysterectomy is not necessarily indicated. In his experience he found sera almost useless, except when the toxemia was intense with but slight evident local lesion. The only harm he ever saw result from their use was an urticarial eruption. For three years, he has been using massive subcutaneous injections of normal saline solution in puerperal infections generally, and in very severe cases, intravenous injections also. For the last year he has added 50 c.c. of polyvalent antistreptococcic serum to the intravenous saline, and has little doubt that it acts better. He explains this by supposing that the serum contains an immune body but no complement, and that the saline injection by producing a leucocytosis supplies the complement desired.

23. Ovariotomy During Labor.—Hellier reports a case in which during labor a tense tumor was found occupying the pouch of Douglas and effectively preventing the head from entering the pelvis. Laporotomy was performed and the uterus was drawn forward out of the abdominal cavity. An ovarian cyst the size of a melon was then very easily drawn up out of the pelvis and through the wound. There were no adhesions. It was attached to the left side of the uterus by a well-defined pedicle, in which the venous sinuses were extremely large. The pedicle was tied in small sections with cat-gut, closing the peritoneum over the stump. The uterus was next replaced, the head being guided and pressed down into the pelvis. The abdominal wound was closed with two series of continuous catgut sutures passed through the deeper layers and twenty interrupted silkworm-gut sutures through the skin and superficial tissues. The abdominal wall was then firmly strapped and bandaged. Labor proceeded naturally without complications.

24. Rupture of the Uterus.—Fothergill reports two cases in which abdominal hysterectomy was performed after completion of labor in which the uterus was ruptured, and comments thereon as follows: The fact that the two patients recovered favors the opinion that when a rupture of the uterus is sufficiently serious to demand the opening of the abdomen, it is safer to remove the organ than to attempt to save it. This view is, or was until recently, unorthodox; but if operators were to publish the results of their recent cases it would probably be proved to be correct. It is indeed reasonable to suppose that the presence of a badly injured puerperal uterus with its impaired blood supply may be a serious menace to the life of a patient already suffering from hemorrhage and shock.

Dublin Journal of Medical Science.

November.

25 *Operative Treatment of Puerperal Fever. Sir A. Macan.
26 Pathologic Report of the Rotunda Hospital for the Year Ending Oct. 31, 1907. R. J. Rowlette.

25. See Abstract No. 21.

Annales de Dermatologie et de Syphiligraphie, Paris.

October, IX, No. 10, pp. 545-608.

27 Idiopathic Atrophy of the Skin. (Atrophie idiopathique de la peau.) F. Malinowski.
28 Sporotrichosis. (Sporotrichose syphyloide gommeuse et sporotrichose tuberculoide de type nodulaire.) L. Spillmann and Gruyer.

Annales de l'Institut Pasteur, Paris.

October, XXII, No. 10, pp. 753-831.

29 Acetic Aldehyd in Wine. M. A. Trillat.
30 *Incubation in Syphilis. C. Levaditi and T. Yamanouchi.
31 Glycolysis, Hyperglycemia, Glycosuria and Diabetes. J. de Meyer.
32 Plague Prophylaxis at Rio de Janeiro. F. de Vasconcellos.

30. Duration of Incubation in Syphilis.—The research on monkeys and rabbits reported shows that the length of the period of incubation is not determined by any cycle of evolution of the *Treponema pallidum* but is due to the slow, progressive development of the histologic changes induced by the proliferation of the microbe. The change of environment at first checks the growth of the microbes, but as soon as they have adapted themselves to the changed conditions and the histologic lesions induced supply them with their necessary nourishment, then the parasites begin to multiply actively and the phase of incubation terminates. The article is accompanied by four colored plates.

Archives des Maladies du Cœur, Paris.

October, I, No. 10, pp. 553-608.

33 *Three Cases of Recurring Pernicious Anemia. (Anémie pernicieuse à rechutes.) A. Gilbert and P. E. Weil.
34 *Angina Pectoris. (Angine de poitrine.) O. Josué.

33. Recurring Pernicious Anemia.—In the first of the three cases described the anemia developed in the course of chronic dyspeptic disturbances. The blood pressure improved with the digestion and became worse as the dyspeptic disturbances increased. In the second case jaundice ten years before was the only pathologic incident in the history. A tendency to jaundice was observed with the anemia, which possibly may be regarded as the result of a hemolytic icterus. The patient succumbed without any benefit from therapeutic measures, the anemia recurring in waves, yielding at first to arsenic. The last fatal exacerbation occurred after a period of great worry and overwork. In the third case, intense anemia was observed in a young bride after a fatiguing six months of travel. Multiple recurring hemorrhages kept up the anemia, but improvement followed an injection of 15 c.c. of diphtheria antitoxin. This seemed to control the hemorrhages, but the anemia continued a progressive course, being fatal in a few months. Such extensive hemorrhages as were observed in this case are very rare in pernicious anemia, and the remarkable way in which they were arrested by the antitoxin and later by an injection of simple defibrinated human blood is not the least interesting feature of this case. This serum treatment also gave temporary relief in the first case, an injection of 40 c.c. of rabbit serum. This serum treatment seems to be merely a symptomatic measure, but it has a promising palliative action and allows time to be gained.

34. Angina Pectoris.—Josué regards angina pectoris as exclusively a pain in the diseased aorta, and this aortic pain is always accompanied by a peculiar anguish. The lesions causing the pain are in the first part of the ascending aorta. The attack of pain is brought on by an emotion or an effort, and these causes are precisely those which increase the blood pressure. The diseased aorta is not painful under ordinary conditions, but the pain develops as the blood pressure rises, and it is favorably influenced by any measure that reduces arterial tension.

Presse Médicale, Paris.

November 7, XVI, No. 90, pp. 713-720.

35 Bacillary Infantile Endocarditis. (Endocardites secondaires. Endocardites primitives septicémiques non folliculaires.) L. Landouzy and H. Gougerot.

November 11; No. 91, pp. 721-728.

36 Case of Syphilitic Polioencephalitis. (Polioencéphalite syphilitique. Ophthalmoplégie totale et bilaterale, accompagnée de symptomes bulbaires.) Dieulafoy.

Semaine Médicale, Paris.

November 11, XXVIII, No. 46, pp. 541-552.

37 Chalazion. (Le chalazion, acné des glandes de Meibomius: histologie et pathogénie.) J. Sabrazès and C. Lafon.

Archiv für klinische Chirurgie, Berlin.

LXXXVII, No. 4, pp. 801-1091. Last indexed Nov. 28, p. 1909.

38 *Drainage of Ventricles of Brain by Transplanted Blood Vessels. (Drainage der Hirnventrikel mittelst frei transplantirter Blutgefässe; Bemerkungen über Hydrocephalus.) E. Payr.
39 *Aseptic Operations on Intestines. (Aseptische Darmoperationen.) L. Wullstein.
40 *Anatomic Behavior of Suprarenal Tissue Implanted in the Kidney. (Anatomische Verhalten intrarenal eingepflanzten Nebennierengewebes.) O. Stoerk and H. v. Haberer.
41 *"Wound Scarlet Fever." (Wundscharlach.) L. Kredel.

42 Indications and Therapeutic Results of Artificially Induced Pneumothorax. (Indicationen und therapeutische Erfolge des künstlichen Pneumothorax.) L. Brauer.
43 Pathology of Intestinal Diverticula. E. Neupert.
44 *Progressive Necrosis of the Costal Cartilages. (Progressive Rippenknorpelnekrose.) W. Röpke.
45 *Pathology and Therapy of Ileocecal Tuberculosis Causing a Tumor and Stenosis. Shiota.
46 Typical Fracture of Epicondyle of the Femur. K. Vogel.

38. Drainage of Ventricle of Brain by Transplanted Blood Vessel.—Payr's long article reviews the anatomy and physiology of the lymph circulation in the brain. study of which has convinced him of the feasibility of treating hydrocephalus by draining the lateral ventricle, possibly into the longitudinal sinus, using some blood vessel to divert the fluid into the venous circulation or lymph spaces. He gives an illustrated description of the instruments he has devised for the purpose, and relates the history of three cases in which he has applied this technic as a last resort. Drainage of the ventricle was thus done five times on three individuals, but permanent benefit was not obtained in any case. The autopsy findings and the course of the cases confirm the practicability of the intervention and the mistakes to be avoided in future. The vision in one case had improved so much that hopes were entertained of permanent improvement, but the child succumbed to secondary infection of the ventricle. The operations were performed without mishap. A piece of the right saphenous vein. about 8 cm. long. was resected and implanted in the ventricle in one case, the patient being a girl of 9. In the second case a segment of the saphenous vein, resected on account of varices from a man of 52, was used for the ventricle drain in a child of 14 months. In the third case the temporal vein was cut and twisted around and the distal stump implanted in the ventricle. In conclusion Payr presents arguments to justify intervention along these lines. but warns that it is applicable only when the cerebrospinal fluid is limpid and sterile. The drain must be arranged with a valve action to prevent return of the fluid into the ventricle.

39. To Insure Asepsis in Operations on Intestines.—Wullstein ties a stout silk thread around the end of the bowel, in the groove made by the splanchnotribe on each side of the stretch to be resected. In tying the knot he slips over the silk thread three finer silk threads with which he is able to untie the knots and finally pull out the stout thread altogether. The fine threads can not be knotted, so he has each woven to form a loop, both ends woven together. The first loop is slipped on the middle of the stout thread and the second near it. The thread is then knotted and the third loop is slipped on one end before the final knot is tied. In order to distinguish the three loops he uses different colors, red, blue and yellow. After the abdominal wall is sutured in tiers he pulls on the red loop string. This unties the outer knot of the stout thread; pulling then on the blue loop unties the inner knot and the thread can then be drawn out completely by the yellow loop at its center. By this means the stout thread can be pulled out after the operation is entirely completed, as the threads can squeeze through the soft parts as they are drawn up from the depths. The presence of the loop threads does not interfere with the suturing, as traction on them does no harm but merely pulls the knots tighter, with the exception of the red loop in the outer knot; this must not be pulled on until ready to untie the knots. He has applied this same principle for removal of buried sutures. His article is illustrated.

40. Anatomic Behavior of Suprarenal Tissue.—By leaving a nourishing pedicle, it has been found possible to transplant a piece of suprarenal tissue in the kidney with apparent retention of function.

41. "Wound Scarlet Fever."—Kredel states that in the Hannover Hospital 28 cases of scarlet fever developed among the patients. In 12 the infection followed an extensive operation and in one a severe burn. The incubation was only three days in ten and from five to eight days in the others. He is convinced that the infection occurred in the operating room, and believes that antiseptic rather than aseptic measures might be preferable during prevalence of scarlet fever.

44. Progressive Necrosis of the Costal Cartilages.—Röpke reports four cases in which a localized abscess in a costal cartilage led to necrosis. The persistence of suppuration even after thorough evacuation of the focus in these cases confirms the necessity for extensive and early intervention to save the patients from many months of illness. The affection in his cases was secondary to typhoid, influenza with an abscess in the neck, fracture of the ribs or a suppurating wound in the vicinity. This property of the costal cartilage to take an active part in keeping up the suppurative process is due to the anatomic conditions and its peculiar mode of nourishment.

45. Ileocecal Tuberculosis.—Shiota summarizes the details of twenty-six typical cases in which the tuberculous process caused a tumor and stenosis. Treatment can be only surgical by resection. The results were good in a number of cases in which partial exclusion of the bowel was done. He compares the experiences of different clinics with ileocecal tuberculosis, the reports from nine showing an immediate mortality of 23.8 per cent. in 84 cases, but this mortality has dropped to 14 per cent. during recent years. In his own 11 cases of resection there was no immediate mortality nor persisting fistula, and all the patients are in good health from one to nearly five years since the operation, with the exception of one patient who succumbed in six months to debility.

Beiträge zur Klinik der Tuberkulose, Würzburg.

XI, No. 1, pp. 1-78. Last indexed Nov. 28, p. 1910.

47 *Physiology of Artificially Induced Pneumothorax and Its Action on Pulmonary Tuberculosis. (Zur Physiologie des künstlichen Pneumothorax und seiner Wirkung auf die Lungentuberkulose.) S. Shingu.
48 Experimental Transmission of Tuberculosis from Man to Cattle. (Experimentelle Uebertragung der Tuberkulose vom Menschen auf das Rind.) A. Eber.
49 "Granula" and "Splinters." (Granula und die Carl Spenglerschen "Splitter.") H. Much. Id. M. Wirths.

47. Physiology of Artificially Induced Pneumothorax.—Shingu describes the experiences with artificially induced pneumothorax in 60 patients in the course of three years, and with numbers of animals, the communication issuing from Brauer's clinic at Marburg. The experimental research was undertaken principally to study the circulation of lymph in the normal and in the compressed lung, especially the circulation of inhaled particles of soot in the lymph. The lung was compressed by a pneumothorax or hydrothorax. The findings in nineteen rabbits are reported in detail, with colored plates in some instances. The most interesting finding in the experiments was, perhaps, the way in which the collapsed lung retained the soot particles, while the still normally functioning lung gradually cleared itself of the soot by way of the bronchi. This self-cleansing of the lung by the respiration is probably aided by the whirlpool movement of the inspired air and by the action of the ciliated epithelium moving the particles along toward the outlet. This self-cleansing function is probably an important means of getting rid of bacilli in the lungs. The collapse of the lung under the influence of a pneumothorax of course arrests this self-cleansing process, so far as it depends on the respiration. The experiences related confirm the old assumption that the tuberculous process develops more slowly the less active the lymph circulation in the part. It is still a question whether this is due to attenuation of the virulence of the bacilli under these circumstances or to an increase in the defensive properties. In some respects the conditions with an artificially induced pneumothorax are similar to those with Bier's hyperemic treatment, at least in so far as the lymph circulation is concerned. One advantage of the compression of the lung is that new relays of bacilli and dust particles can no longer be brought into the compressed lung, which thus escapes these deleterious influences. The lung is able to take care of the bacilli already in it by the self-cleansing functioning of the ciliated epithelium of the bronchi. This must have a favorable influence on the bronchitic process with its consequences, the cough, fever from proliferation of the bacilli, pains, etc. On the other hand, there is also a possibility that in existing bronchial catarrh, with especially tenacious secretion, the secretion may be retained and entail cheesy degeneration of the peripheral segments. The main factor in the cure of a tuberculous process by a pneumothorax is the checking of the proliferation of the tubercle bacilli from the compression—the lung tissue becomes more compact and the bacilli are unable to proliferate. The benefit from the pneumothorax in the clinic has been marked in many cases, and the pathologic findings in the three cases that came to autopsy showed unmistakable healing. The breathing lung works harder than usual, and there is danger that this excessive respiration may aspirate tubercle bacilli and other germs from the compressed lung into the breathing lung or from the air. It is therefore important that this lung doing extra work should have air as pure as possible to breathe. This pneumothorax treatment should not be attempted unless the lung that is to do the extra work is practically free from tuberculosis. The patient should keep as quiet as possible to keep the circulation of lymph at its lowest point and restrict aspiration of foreign bodies, dead or living, liable to induce inflammation. These conditions evidently cooperate in the benefit of the outdoor rest cure.

Berliner klinische Wochenschrift.

November 2, XLV, No. 44, pp. 1961-2006.

50 *When and How to Treat Retrodisplacements of Uterus. (Wann und auf welche Weise ist die Rückwärtslagerung der Gebärmutter zu behandeln?) P. Strassmann.
51 Physiologic Importance of the Prostate. C. Posner.
52 *The Complement-Binding Test for Syphilis. (Beiträge zur Theorie und Praxis der Wassermann'schen Syphilisreaktion.) H. Sachs and P. Rondoni.
53* Turgosphygmography and Finger Plethysmography. F. Fleischer.
54 *Phototherapy of Lupus. M. Piorkowski.
55 Treatment of Pulmonary Tuberculosis Along the North Sea. (Behandlung der Lungentuberkulose an der Nordseeküste.) C. M. Mol.
56 *Relations Between Tuberculosis and Tubercle Bacilli in Man and Tuberculosis and Tubercle Bacilli in Cattle. (Untersuchungen über die Beziehungen zwischen der Tuberkulose und den Tuberkelbacillen des Menschen und der Tuberkulose und den Tuberkelbacillen des Rindes.) J. Fibiger and C. O. Jensen.

50. Treatment of Retrodisplacement of the Uterus.—Strassmann believes that this condition is more frequent than generally believed, and that it is favored by overfilling of the bladder, which pushes the fundus backward, and by overfilling of the rectum, which pushes the cervix forward and thus pivots the fundus backward. Another factor in backward displacement is any laceration of the cervix annulling its action as a solid tube. He urges the importance of examination four or five weeks after childbirth to detect and remedy incipient retroversion. He uses a ring pessary in certain cases, and thinks that about one-fifth can thus be cured or at least relieved from all disturbances. He warns that it is not wise to operate for retroversion resulting from inflammatory conditions in the adnexa, during the first year. The causal germs die off in the course of nine months, poisoned by their own waste products in the closed tubes. During the interim, conservative measures, local application of heat and hydrotherapy, may be applied. He does not approve of operating for retroflexion unless compelled by symptoms, but adds that a spontaneous abortion should always suggest the possibility of displacement of the uterus. If a retroflexed uterus has become corrected during a pregnancy, the wearing of a ring pessary may prevent recurrence. He warns in conclusion that the earlier a woman gets up after childbirth, the more puerperal are the genitalia, the wider the vagina, the less healed are the small lacerations which every parturient has, the larger is the uterus and the greater the burden on the floor of the pelvis. If the woman gets up early after delivery at home, she is sure to begin to work. For these and other reasons, he does not approve of allowing the parturient to get up early.

52. The Serum Test for Syphilis.—Sachs and Rondoni state that the conditions in regard to the dilution of the extract used for the test have a great influence on the findings. It seems probable that the complement-binding action is dependent on the size of the colloidal dissolved particles in the extract and not merely on its chemical properties alone.

53. Finger Plethysmograph.—Fleischer describes the experiences at Strauss' polyclinic at Berlin with the turgosphygmograph and with a new and simple apparatus he has devised to study the behavior of the pulse in the vessels in the finger. He gives an illustrated description of this "finger plethysmograph," with a number of tracings of the finger pulse in health and disease.

54. Phototherapy of Lupus.—Piorkowski relates a number of examples from his large experience to show the fine results that can be obtained in lupus from the use of various forms of light, selecting the special technic adapted for each individual case. The quartz lamp is found most effectual for small, solitary, superficial foci. It has such a powerful irritating action on the skin that the dosage must be applied cautiously. Roentgen therapy is best adapted for the preliminary treatment of suppurating surfaces. The results, both from the cosmetic and the functional point of view are not entirely satisfactory. Finsen treatment gives the most nearly perfect results, especially in the severer cases, and it is free from danger, he says, unless it is contraindicated by some organic affection.

56. Relations Between Human and Bovine Tuberculosis.—Fibiger is professor of pathologic anatomy at the University of Copenhagen, and Jensen is professor of general pathology at the veterinary and agricultural college and in this long monograph they give a detailed account of their experiences with transmission of tuberculosis to cattle from clinical cases. The cases are numbered as a continuation of their previous reports on the subject, and the material is tabulated for better oversight. In the 27 cases, tubercle bacilli virulent for cattle were found only in such cases as the *localization of the affection and the history* of the case rendered it probable that the tuberculosis in these patients had been derived from cattle. When the conditions indicated that the tuberculosis had been derived from a human source, the tubercle bacilli were not especially virulent for cattle. They do not accept the reverse conclusion, namely, that cases of human tuberculosis in which the bacilli are only slightly virulent for cattle are necessarily of human origin. Such an assumption is disproved by the cases in which the bovine type of bacilli could be derived from external lesions, while bacilli from the lungs and urinary passages were of the human type, as in a typical case reported in which the primary tuberculosis was a chronic verrucous affection of the skin in a man employed in slaughtering and dressing diseased cattle. Their experiences lead them to oppose any attempt to classify the types of tubercle bacilli according to their virulence for rabbits. Future research, they say, must be devoted to the study of the question whether tubercle bacilli in human and bovine tissues may not become transformed from one into a different type or types. This question is important from several standpoints, and is the key to the mutual relations between tuberculosis in man and in cattle. The monograph is continued through Nos. 42 to 45.

Deutsches Archiv für klinische Medizin, Leipsic.

XCIV, Nos. 3-4, pp. 239-440. Last indexed Oct 31, p. 1558.

57 *Hemolytic Substances in Stomach Content and Their Importance in Diagnosis of Gastric Carcinoma. (Vorkommen hämolytisch wirkender Substanzen im Mageninhalt.) E. Grafe and W. Röhmer.
58 Toxic and Immunizing Action of Pepsin-Digested Typhoid Bacilli. (Giftige und immunisierende Wirkung pepsinverdauter Typhusbazillen.) E. Gottstein.
59 *Clinical Study of Disturbances in Conduction of Impulse to Auricle. (Zur Kenntnis der Ueberleitungsstörungen von der Bildungsstätte der Ursprungsreize zum Vorhof.) J. Rihl.
60 New Evidence as to Vascular Origin of Pulmonary Tuberculosis. (Neue Beweise für die vaskuläre Entstehung der *Lungenschwindsucht.*) T. Aufrecht.
61 *Experimental Research on Significance of Hyperthermia. (Bedeutung der Hyperthermia.) F. Rolly and Meltzer.
62 Physiology and Pathology of Ciliated Epithelium of Respiratory *Organs.* (*Flimmerepithel* der Atmungsorgane.) F. Lommel.
63 Leukanemia. (Zur Leukanämiefrage.) E. Masing.
64 Determination of Blood Content and Behavior of Blood when Water is Supplied by Digestive Tract. (Experimentelle Untersuchungen über die Bestimmung der Trockenrückstande des Blutes und das Verhalten des Blutes bei Wasserzufuhr durch den Verdauungskanal.) R. Chiarolanza.
65 Viscosity of Blood in Health. (Viskosität des Blutes bei Gesunden.) W. Hess.
66 *Clinical Importanc [illegible] of Viscosity. (Die klinische Verwert [illegible] an Hand von vierhundert [illegible]
67 *Proportions of Hematin and Iron* in the Blood. (Farbstoff- und Eisengehalt des Blutes.) O. David.

57. Differential Importance of Hemolytic Substances in Stomach Content.—Continuing their previous research, Grafe and Röhmer have now a record of 230 persons, with and without stomach affections, whose stomach content has been repeatedly tested for hemolytic properties. In 57 cases of certain cancer of the stomach the hemolysis was always pronounced, while it never was detected in the healthy content, and never under other conditions except when there was regurgitation of bile and pancreatic juice, which is especially liable to be encountered when there is considerable ptosis. It is necessary, therefore, to determine the presence of trypsin, and if it is found impossible to obtain the stomach content free from trypsin, the hemolytic property has no diagnostic value. The hemolysis is probably the work of some albuminoid substance, and it indicates an ulcerative process in the stomach. It is thus impossible to differentiate by this hemolytic test a large benign ulcerating ulcer from a small incipient cancer, so that negative findings are much more important than positive. Grafe and Röhmer reject the umbilicus as an unreliable basis for computing the amount of ptosis. A line connecting the highest points of the crests of the ilium is more reliable, and they accept as gastroptosis the cases in which the lower limit of the inflated stomach is at least two fingerbreadths below this line.

59. Disturbances of Conduction of Heart Impulse.—Rihl has studied a case of irregular heart action which he describes in detail and compares with others. Simultaneous registration of the arterial and venous pulse showed occasional dropped systoles of the ventricle with and without dropped auricular systoles. By pressure on the vagus during periods of regular heart action, it was possible to induce the dropping of ventricular systoles and arrest of the contractions of the auricle. During the ventricular pause from the pressure on the vagus, the ventricles contracted independently of the work of the auricles; these contractions were evidently automatic.

61. Significance of Abnormally High Temperature.—Rolly and Meltzer report extensive experimental researches which demonstrate, they think, that a febrile temperature is liable to have a favorable action in bacterial infections, and that phagocytosis is promoted, as also the production of antibodies. The rising temperature with infectious processes may thus be regarded as a means of defense, arousing the cells to increased activity, so that the specific antibodies are produced earlier and in increased amounts. There did not seem to be any permanent injury to the animals from the prolonged febrile temperature, but there were certain transient disturbances such as loss of weight and lower hemoglobin percentage.

66. Determination of the Viscosity of the Blood.—Bachmann advises determining the viscosity of the blood in connection with hemoglobin, the experiences showing that the hemoglobin divided by the viscosity gives a quotient which is nearly constant in health, but which varies widely in different diseases. In pneumonia the viscosity is increased; in typhoid it is reduced, as also in chronic interstitial nephritis. In thrombosis the viscosity may range from average to maximal figures. The higher the viscosity the graver the prognosis. In epidemic meningitis the viscosity is always pronounced.

Deutsche Zeitschrift für Chirurgie, Leipsic.

October, XCIV, Nos. 5-6, pp. 407-629.

68 Three Cases of Rare Malformations. (Einige seltene Missbildungen.) Emin.
69 Roentgen Diagnosis of Tuberculosis of the Pulmonary Glands in Children with Spondylitis. (Zur Röntgendiagnostik der kindlichen Lungendrüsentuberkulose bei Malum Pottii.) M. Matsuoka.
70 Production of Stones in Upper Urinary Passages after Injury of the Spine. (Zur Frage der Steinbildung in den oberen Harnwegen nach Verletzung der Wirbelsäule.) G. Seefisch.
71 Treatment of Lupus. P. Wichmann.
72 Circular Resection of Trachea. Method of Suturing. D. v. Navratil.
73 *Hemorrhage in the Adipose Capsule of the Kidney. (Blutung in das Nierenlager.) H. Joseph.
74 Surgery of Gastric Cancer. (Zur Chirurgie des Magencarcinoms.) O. Creite.
75 *Hernia of the Bladder. (Harnblasenbrüche.) H. Eggenberger.
76 *Experimental Research on Clamping the Large Vessels near the Heart with Special Reference to Operative Treatment of Pulmonary Embolism according to Trendelenburg. (Die chirurgisch wichtige Abklemmungen der grossen Gefässe in der Nähe des Herzens unter besonderer Berücksichtigung der Verhältnisse bei der Lungenembolie-Operation nach Trendelenburg.) A. Läwen and R. Sievers.
77 Multiple Cysts in Esophagus. F. Landois.
78 Two Cases of Dislocation of the Pelvis. (Beckenluxation.) Grimbach.
79 Cancer Removed from Sphenoidal Sinus. Two Cases. (Maligne Tumoren der Keilbeinhöhle.) Vorschütz.
80 Shovel Retractor for Operations on Biliary Passages. (Schaufelhaken.) P. Sick.

73. Hemorrhage in the Adipose Capsule of the Kidney.—A man of 50 with a tendency to gout suddenly developed intense pain in the right kidney region with collapse, transient anuria and paresis of the intestines. The temperature rose, there was hemorrhagic suffusion of the skin in the region, a resistance could be palpated, and the patient grew constantly weaker, but with no signs of anemia and with no abnormal urine findings. Operation revealed hemorrhage in the adipose capsule and around the kidney. The blood-soaked tissue was removed, but the apparently intact kidney was not disturbed. A complicating pneumonia and the persistence of symptoms soon compelled nephrectomy which the patient did not survive. Autopsy revealed further a septic tumor in the spleen. Joseph remarks in conclusion that the circumstances in this and the two similar cases on record indicate that the patients might have been saved by earlier removal of the focus in these cases of "apoplexy of the bed of the kidney."

75. Hernia of the Bladder.—Eggenberger adds 110 cases to the previous statistics of 182 collected by Brunner in 1896. The list includes 5 from his own experience. He summarizes this later series, classifying the cases and discussing the treatment. In operating on a manifest cystocele the bladder is never injured and the disturbances subside after its reduction. The outlook is not so good with the latent bladder hernia discovered as a complication at a herniotomy, as the bladder is liable to injury in this case. The conditions are still worse when the participation of the bladder in the hernia is not discovered at the time of the operation. The mortality in this case still amounts to 30 or 40 per cent., and tedious fistulas are frequently left.

76. Clamping of Large Vessels Near Heart.—Research on this subject was undertaken at Trendelenburg's clinic to throw light on the conditions in pulmonary embolism and the best means of operative intervention. After simultaneous constriction of the pulmonary artery and the aorta in rabbits, the heart and brain seem to suffer most, but the former is more resistant and adapts itself better to the changed conditions. It finally yields to their injurious influence, the overfilling of the organ and the impossibility of emptying it, the lack of fresh nourishing blood in its arteries and the central irritation of the vagus center, all combining to arrest the heart action in time. The heart can stand this for six minutes, however, and the animals apparently tolerated without injury simultaneous constriction of the aorta and pulmonary artery for the space of one minute. This gives ample time in operating on man to take the thrombi out of the branches of the pulmonary artery, or, if not, the constriction could be removed and the wound in the artery closed with a special clamp. Then, after the circulation has been proceeding normally for a few minutes, the constriction could be applied anew. It is unnecessary, theoretically, to apply artificial respiration while the pulmonary artery is occluded, as no blood can then pass through it to be oxidated in the lungs. It is all the more necessary, however, after the constriction has been removed and the circulation through the lungs starts up once more. Experiments in which the two arteries were constricted separately produced the same results as when the two were constricted at the same time. One rabbit survived after the circulation in the pulmonary artery had been shut off for one minute, while an operation as for pulmonary embolism was being done. The animal was lively at once as soon as it recovered from the ether. Other experiments with occlusion of the large veins showed that the coronary and pulmonary circulation was maintained at least for a time. Puncture of the left ventricle during this experiment showed pronounced arterial blood and in the right ventricle dark venous blood. The heart tolerates constriction of the large veins better than of the large arteries. The heart resumed its functioning when the vena cava had been constricted for nine minutes, but irreparable disturbances had occurred in the brain.

the corneal reflex being permanently abolished. The rabbits were able to tolerate without apparent injury constriction of the large veins for 3¾ minutes. If the venæ cavæ are tied off to arrest hemorrhage in the clinic, brain complications can be avoided by releasing the pressure from time to time to allow the blood to circulate freely once more through the brain, even at the loss of a little more blood in hemorrhage. Rabbits were used for all the tests reported and the arteries were constricted with yarn dipped in oil. The artery is readily lifted by the piece of yarn passed underneath, and crossing the ends of the yarn constricts the lumen completely. The veins were occluded with small Dieffenbach clamps with the sharp edges filed off.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin.

November, XXVIII, No. 5, pp. 509-638.

81 Chemical Composition of Myoma and Uterine Musculature. (Chemische Zusammensetzung der Myome und der Uterusmuskulatur.) R. Birnbaum and G. Thalheim.
82 Structure and Function of the Epithelium of the Fallopian Tubes in Man and Animals. (Bau und Funktion des Eileiterepithels.) J. Schaffer.

Therapie der Gegenwart, Berlin.

November, XLIX, No. 11, pp. 481-528.

83 *Symptomatic Treatment of Pulmonary Tuberculosis. H. Senator.
84 Dangers of Reinjection of Curative Serum. R. Otto.
85 *Artificially Induced Pneumothorax in Treatment of Pulmonary Tuberculosis. (Indikationen und Technik des Künstlichen Pneumothorax bei Lungenschwindsucht.) C. Forlanini.
86 Hydrotherapy of Arteriosclerosis. J. Sadger.
87 *Rare Ulcerative and Necrotic Processes in the Mouth. (Seltenere ulzeröse und nekrotisierende Prozesse im Munde.) P. Ritter.

83. **Symptomatic Treatment of Tuberculosis.**—Senator remarks that symptomatic treatment of all affections is too much neglected. Besides the causal and the specific measures, the symptomatic should be used more systematically than is frequently the case, especially in tuberculosis. He takes up the various symptoms in turn and discusses the best measures for their relief. In hemoptysis the most complete repose is imperative—avoidance of physical and mental exertion of any kind. Severe coughing is injurious and should be prevented as it never expels all the blood, while pure blood in the air passages is readily absorbed without harm. Sedatives should therefore be given to control the cough; even morphin may be useful. It has the further advantage that it tranquilizes the patient, who is usually frightened and excited by the hemoptysis. Digitalis may also prove useful in case the heart is acting too stormily. Application of cold to the chest may aid by reflex action in inducing contraction of the blood vessels, but if it causes the patient to feel chilly it is best to discontinue it. He has never witnessed much benefit from astringents, except possibly lead acetate, which seems to increase the coagulability or viscosity of the blood. Inhalation of astringents, to do any good, would have to be so powerful that it would keep the parts from the needed repose. Ergot, hydrastis and similar drugs, useful to stimulate the sound uterine muscle to contract, are liable to do harm here as the bleeding vessel is diseased and thus not able to respond to the stimulus. If the sound parts around contract, the hemorrhage may be increased. Gelatin is liable to do good service. Although it is more effectual subcutaneously injected, he gives it also by the mouth and in enemas, regarding it as a valuable means of supplying nourishment, in addition to its hemostatic action. If the hemorrhage remains profuse, he supplements these measures by applying a tourniquet to the arms and legs to shut off the circulation in these parts. This must be done cautiously, not allowing too much congestion in the limbs, and with care to release the dammed circulation from only one limb at a time, to avoid too much flooding of the lungs when the general circulation is restored. If further measures are needed, the suprarenal preparations might be tried, although their action in contracting the blood vessels is of little use—they seem, however, to have some further influence on the blood itself. Lead acetate might be alternated with them. Slight fever may be controlled by repose and frequent, easily digested meals. If the fever keeps high, he paints the skin with 1 or 2 gm. (15 or 30 grains) of guaiacol, covering the region afterward with rubber tissue—the temperature generally drops in less than an hour afterward. This is such a powerful measure that he warns not to use more than 0.5 or 0.75 gm. (7½ or 10 grains) for very sensitive patients. The salicylates are liable to injure the stomach and increase sweating. To prevent night sweats no warm food or drink should be taken in the evening, and the trunk should be gently rubbed with cool vinegar water or fluid formalin soap. Atropin stands at the head of internal remedies, if such are indispensable, but it should be given with great caution. Dietetic treatment of the diarrhea with warm packs of the trunk and, possibly, warm Ems Kesselbrunnen water, mornings, fasting, and again several hours after dinner, generally keep the diarrhea under control unless the intestinal lesions are very extensive. If drugs are needed, he prefers an infusion of a mild vegetable drug.

85. **Artificially Induced Pneumothorax in Tuberculosis of the Lung.**—Forlanini advanced the theory of this procedure in 1882 and in 1894 published clinical experiences with it. He here reviews the whole subject and its history to date, with thirteen illustrations of the technic which he has found most effectual, apparatus, etc. The method is indicated, he says, for the uncomplicated cases of unilateral pulmonary tuberculosis with a slow or subacute course and with free pleura, without regard to the extent or degree of the lesion. In such cases the pneumothorax treatment is simple, comparatively short, and leads to an effectual cure. He adds that it may be indicated in the acute unilateral cases when other measures fail or are impracticable for any reason. The treatment is also indicated as above even in the presence of pleural adhesions if they can be broken up with the pneumothorax, but in such cases the method is harder to apply and the course of treatment much longer. He admits, further, that the pneumothorax treatment is applicable to cases of bilateral but not acute phthisis. The article is to be continued.

87. **Ulcerative Processes in the Mouth.**—Ritter relates a number of instances of severe ulcerative processes with necrosis in the mouth. Those originating in irritation from a tooth or other accidental cause can generally be arrested by energetic measures, but the prognosis is more serious of those on a basis of tuberculosis, leukemia or other constitutional taint. One of his patients was a woman of 35, who developed ankylosis of the jaws three weeks after extraction of a wisdom tooth. An ulcerative process followed, rebellious to antisyphilitic and other treatment, and which soon assumed fatal malignant features. In another case a small boy developed an ulcerative stomatitis in consequence of prolonged treatment with phosphorus on account of rachitis and debility. The necrosis was so pronounced that there was no resource except curetting without regard to preservation of the dental germs for the permanent teeth. Ritter refers in conclusion to the ulcerative processes liable to follow injection of cocain, warning that prolonged anemia of any part is liable to be followed by the death of the part and necrosis, consequently the dose of cocain should be small, and the parts not allowed to be unduly distended. The action on the heart must also be cautiously watched. Palpitation and a tendency to syncope are liable to be observed in anemic individuals. In one case edema of the sublingual glands was observed after removal of an incisor under cocain-adrenalin. The glands suppurated and opened outward.

Virchows Archiv, Berlin.

November, CXCIV, No. 2, pp. 177-368.

88 Scorbutus. T. Sato and K. Nambu.
89 Gonorrheal Coxitis and Its Relation to Protrusion of Floor of Acetabulum. F. Schlagenhaufer.
90 Pathologic Anatomy of the Liver. F. G. A. Meyer.
91 Duerck's Fibers in the Penis. (Vorkommen der Duerckschen Fasern im Bereich des Penis und deren Beziehungen zu den elastischen Elementen.) C. Bruegel.
92 Morphology of Cartilage Glycogen and Structure of Cartilage Cells. J. Arnold.
93 Phenomena of Degeneration and Healing in Amyloid Kidney. (*Ueber Entartungs-* und Heilungserscheinungen in der Amyloidniere.) R. Sarrazin.
94 Genesis of Multiple Cysts in the Spleen. (Zur Genese der multiplen Milzzysten.) F. Wohlwill.
95 Proliferation of New Diseased Lymph Glands. (Vermehrung erkrankter Lymphdrüsen.) R. Hammerschlag.
96 *Importance of *Proteolytic* Leucocyte Ferment in Pathologic Physiology: Absorption, Autolysis, Fever, and Changes in the Coagulating Property of the Blood. G. Jochmann.

96. **Importance of Proteolytic Leucocyte Ferment for Pathologic Physiology.**—Jochmann has succeeded in isolating the proteolytic ferment of the polynuclear neutrophile leucocytes and has been studying its action in various pathologic conditions. His research indicates that this ferment plays a considerable part in the autolysis of most of the organs and that its power of digesting albumin facilitates the process of absorption, while the liberation of the ferment in large amounts has an undoubted action in raising the temperature, and may be responsible for the aseptic fever observed under various conditions, such as the slight fever after a normal childbirth, the fever in myelogenous leukemia, after Roentgen exposures, and after injection of silver salts. The ferment also seems to reduce the coagulating power of the blood at first, but in large doses it has the opposite effect.

Wiener klinische Wochenschrift.

November 5, XXI, No. 45, pp. 1545-1580.

97 *Advantages of Institutional Care of Childbirth. (Geburtshilfe in Anstalten und ausserhalb derselben.) F. Schauta.
98 Experimental Transmissible Tumors. (Zur Kenntnis der übertragbaren tierischen Tumoren.) K. Landsteiner.
99 *Diarrhea from Gastric Achylia in Children. A. F. Hecht.
100 *Microchemical Test for Mucus in Stools. (Neuer mikrochemischer Schleimnachweis im Stuhl.) Id.
101 Poisoning from Fishberries Used as Abortifacient. (Zur Kasuistik der durch Kockelskörner 'hervorgerufenen Vergiftungen.) E. Homa.
102 Umbilical Hernias. (Nabelhernien.) A. Fraenkel.

97. **Obstetrics in and outside of Lying-in Hospitals.**—Schauta urges the more general preaching of the gospel that when a woman is facing a childbirth she should avail herself of the superior advantages of institutional care as a matter of course. To the sentimental objection that in this hour of stress she wants to be in the bosom of her family, he replies that any laparotomy is as much an hour of stress as a childbirth, and yet that no one thinks of advising a laparotomy to be done in the home except under extraordinarily favorable conditions. Every obstetrician knows how much more difficult his task is rendered by the environment of the ordinary private house, and how he is frequently unable under the circumstances to do what his reason tells him should be done for the ultimate welfare of mother and child. The family physician or obstetrician should still have charge of the case, as in the home, only he should have all the resources of the modern well-equipped lying-in hospital to back him. He should be able to determine during the last half of gestation whether the delivery is liable to be pathologic or not, and if so, the woman should be advised to go to some institution. Among the arguments he cites to sustain this contention is the fact that in Mecklenburg, 1887-1897, two-thirds of the fatalities from puerperal infection were in women who had required some obstetric operation. Other statistics also teach the same lesson, namely, that the mortality from puerperal infection outside of institutions is still as high, or even higher, than in the preaseptic days, while in the maternities the mortality is less than a thirtieth of what it used to be.

99. **Gastric Achylia in Children.**—Hecht's experience indicates that every chronic diarrhea is suspicious of achylia, and he urges that the gastric secretions should be investigated in every such case. In a recent case of the kind, a girl of 9 had long suffered from chronic diarrhea, and during weeks of observation no hydrochloric acid and no lab ferment, and scarcely any splitting of fat, were discovered in the stomach, while there was very little to show the action of pepsin. There was a suspicion of tuberculosis also, but the case is a typical example of chronic diarrhea resulting from gastric achylia. It is probable, he adds, that such cases will be found to be more numerous than suspected at present, if the gastric secretion is systematically investigated in patients with a chronic tendency to diarrhea.

100. **Microchemical Test for Mucus in Stools.**—Hecht adds to a scrap of stool a drop of a mixture of equal parts of a 2 per cent. solution of brilliant green with a 1 per cent. solution of neutral red, diluted. The mucus stains red, while the rest of the stool is green, except the nuclei and membranes of cells.

Zentralblatt für Chirurgie, Leipsic.

November 7, XXXV, No. 45, pp. 1321-1352.

103 *Osteoplastic Substitution After Resection of Lower Jaw. (Zum osteoplastischen Ersatz nach Unterkieferresektion.) L. R. v. Rydygier.
104 Injury of Hepatic Duct During a Cystectomy. (Verletzung des Ductus hepaticus bei der Cystektomie.) W. Volkmar.
105 Modified Cannula for Transfusion according to Crile. (Eine modifizierte Crile'sche Transfusionskanüle,) L. Buerger.

103. **Osteoplastic Restoration after Resection of Jaw.**—Rydygier gives an illustration of the method of using a strip cut from the front of the clavicle to fill the gap left by resection of the under jaw. The strip of bone is wrapped in a corresponding pedunculated skin flap in which it is allowed to heal before being transplanted. The one case in which he had occasion to apply this technic amply confirmed its practicability and successful results.

Zentralblatt für Gynäkologie, Leipsic.

November 7, XXXII, No. 45, pp. 1465-1496.

106 Polypous Ovarian Cystoma. (Fall von polypösem Eierstockskystom.) A. Grasmueck.
107 *Placental Theory of Etiology of Eclampsia. J. Hofbauer.
108 Attempt to Follow Sellheim's Technic for Extraperitoneal Cesarean Section. (Versuch eines extraperitonealen Kaiserschnittes nach Sellheim.) Uthmöller.
109 Operation by Rehn-Delorme Technic for Prolapse of Rectum. (Operation eines Mastdarmprolapses nach Rehn-Delorme.) Id.

107. **Placental Theory of Eclampsia.**—Hofbauer reviews the arguments for and against the assumption that ferments from the placenta are liable to induce partial intravital autolysis of the liver. The toxins resulting from the autolytic process and also from the defective functioning of the liver are responsible for the development of the eclampsia. The testimony is overwhelmingly in favor of this assumption, he says. It should not be called a theory, he adds, as it is a complex of interdependent facts which have each been demonstrated with the exception of the ferments in the placenta; these as yet are known only by the results of their action.

Gazzetta degli Ospedali e delle Cliniche, Milan.

November 1, XXIX, No. 131, pp. 1405-1420.

110 *Temporary Hemostasis During Removal of Kidney Stones. (Emostasi temporanea nelle nefrolitotomie.) G. Caponetto.
111 *Neutral Potassium Oxalate for Treatment of Phlegmons. Adenitis and White Swelling. (Dell'Ossalato neutro di potassa nella cura del flemmone, della adenite e della flemmasia alba dolens.) G. Cavazzani.
112 Sea Bathing in Treatment of Certain Tuberculous Affections. (Cura di alcuni processi tubercolari merce i bagni marini.) R. Passini.
113 *Suddenly Fatal Electric Accidents. (Morte improvvisa da scarica elettrica.) A. Tonello and L. Confalonieri.
114 *Study of Abdominal Colic. (Sulle coliche addominali con speciale riguardo al dolore epigastrico.) M. Lodi.

110. **Temporary Hemostasis During Operations on the Kidneys.**—Caponetto uses an elastic cord or very fine rubber drain, passing it doubled through a metal tube, curving a little at the outer end from which the loop of the elastic cord projects. The rubber cord is passed around the pedicle of the kidney and by pulling on the outer ends of the cord and seizing them with a clamp, the desired amount of compression on the pedicle of the kidney can be automatically maintained without the slightest injury of the tissues. He has noticed that the suprarenal preparations seem to exert a more energetic action on the renal than on other blood vessels.

111. **Potassium Oxalate for Acute Suppurations.**—Cavazzani reported in 1897 his favorable results in treatment of phlegmons, suppurating glands and phlegmasia alba dolens with neutral potassium oxalate injected in fractioned doses in a 2 per cent. solution. He here reports that his later experience has confirmed his previous announcements. This drug seems to possess stimulating, opsonic and colloidal properties, he says, and it has proved particularly useful in cases of phlegmasia alba dolens. He gives the details of his last series of nine cases; recovery was complete in from four to forty-two days, with an average of less than twenty. The injections were repeated once, at an interval of five or six days. From 3 to 4 c.c. of the 2 per cent. solution of the neutral potassium oxalate are injected, fractioned, at ten or fifteen different points around the swollen lesion, the needle being introduced deep into the subcutaneous connective tissue. A third application is rarely required.

113. **Electric Accidents.**—In Tonello's case, a man of 37 succumbed suddenly to the passage of a current of 165 volts through his body as he held a 16 candle power lamp in his hand. The lesions found at autopsy indicated that death was the result of paralysis of the heart and respiration from the weak electric current acting on an individual with lesions in pleura, thyroid and pericardium reducing the resisting powers, with the additional factors of extreme heat, sweating and much lime dust in the air. The pathologic anatomic conditions caused by the electric discharge seemed to be identical with those encountered in death from asphyxia.

114. **Study of Abdominal Pain.**—Lodi analyzes the various forms of abdominal colic, especially pain in the epigastrium, as a means of differentiating herpes zoster, rupture of the muscles, phlegmon of the subperitoneal tissue, acute peritonitis, intestinal affections, affections of the pancreas, intestines, stomach and liver, cysts in the mesentery, kidney stone, diaphragmatic pleurisy and aneurism of the aorta. besides the pain accompanying diffuse or constitutional disorders, such as hysteria, tabes, lead poisoning, diabetes, etc., and abdominal pain as a reflex phenomenon.

Policlinico, Rome.

November 7, XV, Practical Section, No. 45, pp. 1413-1444.

115 *Typhoid Localized in Kidneys. (Nefro-tifo.) G. Giordano.

November, Medical Section, No. 11, pp. 477-524.

116 Behavior of Liver Glycogen during Starvation. (Del modo di comportarsi del glicogene epatico nella inanizione.) C. Fonzo.
117 Sensibility of the Human Skin. (Sensibilita cutanea dell 'uomo.) G. Calligaris.
118 Clinical Arguments in Favor of Assumption of "Cerebellar Neurasthenia?" (Nevrosi e forme organiche.) G. L. Lucangeli.

115. **Typhoid Localized in the Kidneys.**—In the first of the two cases described, a young woman, apparently convalescing from pleurisy, developed severe kidney symptoms, which bacteriologic examination showed were due to a typhoid septicemia localizing almost solely in the kidneys. The second patient was a boy of 14, with a focus of bronchopneumonia and hematuria with numerous tube casts and blood corpuscles. The diplococcus was cultivated from the sputum, but there was nothing to explain the urinary findings until the remarkably low number of leucocytes suggested the possibility of typhoid. The fever was intermittent in character, and there were no symptoms on the part of the abdomen, no typhoid bacilli in the stools, and the specific gravity of the urine was normal, as also its amount. However, typhoid bacilli were found in the urine and the agglutination test gave positive findings. The syndrome was never very serious and the child recovered.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

PROCEEDINGS OF THE TWENTY-FOURTH ANNUAL CONVENTION OF THE ASSOCIATION OF OFFICIAL AGRICULTURAL CHEMISTS, held at the Jamestown Exposition, Norfolk, Va., October, 1907. Bulletin No. 116. Edited by Harvey W. Wiley, Secretary of the Association. Paper. Pp. 143. Washington: Government Printing Office, 1908.

LEHRBUCH UND ATLAS DER ZAHNHEILKUNDE MIT EINSCHLUSS DER MUNDRANKHEITEN. (Lehmann's Medizinische Handatlanten Band XXX.) Von Gustav Preiswerk, Lektor an der Universität Basel. Edition 2. Cloth. Pp. 398, with illustrations. Price, 14 marks. München: J. F. Lehmann's Verlag, 1908.

LES DILATATIONS DE L'ESTOMAC. Séméiologie et thérapeutique des distensions gastriques. (Les Actualités médicales.) Par René Gaultier, chef de clinique médicale à la Faculté de médecine de Paris. Boards. Pp. 95. Price, 1.50 francs. Paris: Librairie J.-B. Baillière et fils, 1909.

A DICTIONARY OF MEDICAL TREATMENT. By Arthur Latham. M.A., M.D., Oxon., M.A., Cantab., F.R.C.P., Lond., Physician and Lecturer on Medicine at St. George's Hospital. Cloth. Pp. 825. Price, $2.00. Philadelphia: P. Blakiston's Son & Co., 1908.

OFFICIAL AND PROVISIONAL METHODS OF ANALYSIS. Association of Official Agricultural Chemists. Bulletin No. 107. Edited by Harvey W. Wiley, Secretary of the Association. Paper. Pp. 272. Washington: Government Printing Office, 1908.

PROCEEDINGS OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION AT THE SIXTY-THIRD ANNUAL MEETING, held in Washington, D. C., May, 1907. Paper. Pp. 359. Published by American Medico-Psychological Association, 1907.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Twenty-sixth volume. Edited by Richard H. Harte, M.D., Recorder of the Association. Cloth. Pp. 756, with illustrations. Philadelphia: W. J. Dornam, 1908.

INFANTILISM FROM CHRONIC INTESTINAL INFECTION. By C. A. Herter, M.D., Professor of Pharmacology and Therapeutics, Columbia University. Cloth. Pp. 118. Price, $0.90. New York: Macmillan Co., 1908.

ANNUAL REPORT OF THE SURGEON-GENERAL, U. S. NAVY. Chief of the Bureau of Medicine and Surgery to the Secretary of the Navy. For year 1908. Paper. Pp. 164. Washington: Government Printing Office, 1908.

THE SURGERY OF THE EAR. By Samuel J. Kopetzky, M.D., Attending Otologist, New York City Children's Hospitals and Schools. Cloth. Pp. 368, with illustrations. Price, $4.00. New York: Rebman Co.

SURGICAL MEMOIRS AND OTHER ESSAYS. By James G. Mumford, M.D., Instructor in Surgery, Harvard Medical School. Cloth. Pp. 358, with illustrations. Price, $2.50. New York: Moffat, Yard & Co., 1908.

MEAT EXTRACTS AND SIMILAR PREPARATIONS. By W. D. Bigelow, Chief Division of Foods, and F. C. Cook, Physiological Chemist. Paper. Pp. 56. Washington: Government Printing Office, 1908.

BESTIMMUNGEN UEBER DIE ZULASSUNG ZUR AERZTLICHEN PRAXIS IM AUSLANDE. Von J. Schwalbe, in Berlin. Second Edition. Paper. Pp. 206. Leipzig: Verlag von Georg Thieme, 1908.

THE PRACTITIONERS' VISITING LIST FOR 1909. Flexible leather, with flap, pocket and pencil, and calendar for two years. Price, $1.25. Philadelphia: Lea & Febiger.

CANAL RECORD, Sept. 4, 1907, to Aug. 26, 1908. Vol. 1, with index. Cloth. Pp. 416. Ancon, Canal Zone: Isthmian Canal Commission Printing Office, 1908.

PREVENTION OF TUBERCULOSIS. State Charities Aid Association of New York, No. 102. April, 1908. Paper. Pp. 108. New York City: United Charities Bldg.

REPORT FROM PATHOLOGICAL DEPARTMENT CENTRAL INDIANA HOSPITAL FOR INSANE. 1903-1906. Cloth. Pp. 392. Indianapolis: William B. Burford, 1908.

FUN IN A DOCTOR'S LIFE. By Shobal Vail Clevenger, M.D. Cloth. Pp. 291. Price, $1.00. Atlantic City, N. J.: Evolution Publishing Co., 1909.

HEALTH, STRENGTH AND HAPPINESS. By C. W. Saleeby, M.D., F.R.S., Edin. Cloth. Pp. 411. Price, $1.50. New York: Mitchell Kennerley, 1908.

MAN, WOMAN, KNOW THYSELF! By Elmer Jefferson Bartholomew, Chicago, Ill. Cloth. Pp. 221, with illustrations. Chicago: Grant's Printery.

THE RED CITY. By S. Weir Mitchell, M.D., LL.D. Paper. Pp. 421, with illustrations. Price, $1.50. New York: The Century Co., 1908.

New Patents

Recent patents of interest to physicians:

902133. Combination tent and sleeping-bag. F. W. Burch, Pueblo, Colo.
901157. Producing phosphoric acid. F. J. Maywald, Brooklyn.
902177. Apparatus for treating oleic acid. P. Schwoerer, Strassburg, Ger.
902513. Endoscope. R. H. Wappler, New York.
903150. Purifying and humidifying air. W. G. R. Braemer, Buffalo, N. Y.
902647. Suspensory device. F. Day, Los Angeles, Cal.
902946. Physical-culture apparatus. G. R. De Nise, Denver.
902947. Stretching attachment for operating tables. G. R. De Nise, Denver.
903073. Shoulder Brace. M. W. Ferris, South Orange, N. J.
902574. Fumigator. D. F. Foltz, Calumet, Okla.
903134. Capsule intended to contain compressed gases. P. Giron, Paris, France.
902812. Pasteurization. A. Goetz and P. A. Jones, Grand Rapids, Mich.
902961. Respiration mask. G. F. Goodnow, Waukegan, Ill.
902737. Invalids' cabinet commode. J. Jones, Salem, Oregon.
903098. Vaginal syringe. O. [illegible] Texas
902587. Disinfecting device. [illegible]
902826. Pasteurizing apparat [illegible] Ohio.
902753. Bullet probe. G. E. Marshall, Aquilar, Colo.
902993. Mouth-gag for surgical, purposes. A. M. McIntosh, Sydney, New South Wales, Australia.
903154. Disinfecting apparatus. J. N. Mitchell, Washington, D. C.
902674. Fumigating-tent and using the same. A. W. Morrill, Orlando, Fla.
902832. Inhaler. E. F. Philbrook, Chicago.
903107. Vaginal syringe. C. F. W. Ramus, Boston.
902607. Producing nitric oxid. I. L. Roberts, New York.
903029. Pasteurizing apparatus. F. Tyson, Canton, Ohio.
902785. Invisible ear-drum. F. M. Way, Detroit.
903121. Invalid's table. L. P. Wentzell, Greensburg, Pa.
903467. Dropper. E. C. Glines, Providence, R. I.
903289. Vapor bath apparatus. K. Hickox, Excelsior Springs, Mo.
903389. Making arsenate of lead. E. E. Luther and W. H. Volck, Watsonville, Cal.
903640. Electromedical apparatus. R. H. Wappler, New York.
903650. Case for holding ribbon-plaster or other matter. K. Wolf, Hamburg, Germany.
904172. Apparatus for therapeutic treatment of the air of living rooms. F. Batter, St. Johns, Ore.
903953. Spray nozzle. E. C. Brown, Rochester, N. Y.
903853. Disinfection. A. Gartner, Berlin, Germany.
904481. Crutch. H. A. Hood, Spencer, Mass.
904149. Atomizer for scent and other sprays. H. Bachmann, Haida, Austria-Hungary.
904095. Aseptic bottle. J. J. Shea, Beverly, Mass.

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Original Articles

THE DURATION OF LIFE AFTER EXTENSIVE HEMORRHAGE OF THE BRAIN.*

WILLIAM G. SPILLER, M.D.

Professor of Neuropathology and Associate Professor of Neurology in the University of Pennsylvania.

PHILADELPHIA.

My attention has been called recently to a diagnosis of apoplexy in a case in which life terminated in about five or ten minutes after a severe attack began. The person, a woman, had been in good health previously, was nearly 70 years of age, and after retiring was heard to groan. She was found within a few minutes with her head hanging over a bath-tub and her face much congested. A physician, called at once, pronounced her dead and gave apoplexy as the cause of death.

My experience has not justified a diagnosis of apoplexy in cases in which life has been terminated so quickly. I have taken thirteen specimens from my collection of pathologic conditions, in which extensive hemorrhage of the brain was found at necropsy. Many of these were from cases in my service at different hospitals; others were from cases in the service of Dr. Mills. In all instances life had been prolonged at least hours after the onset of the apoplexy, even when the hemorrhage was very extensive, had broken into the ventricles, and filled all the ventricles, even the fourth. In two cases of this kind (1 and 2) life was prolonged several hours; in one about five hours, in the other eighteen to twenty hours.

As a rule extensive rupture into the lateral ventricles is followed by more rapid death than when the ventricles escape, but a moderate hemorrhagic exudate into the ventricles is not necessarily rapidly fatal. In nine cases (3, 4, 5, 6, 7, 8, 9, 10 and 11) the lateral ventricles were implicated. In Case 3 death occurred after three days; in Case 4 after eleven days; in Case 5 after at least five days; in Case 6 after at least twenty-four hours; in Case 7 after five or six days; in Case 8 after about five days; in Case 9 after about a day and a half; in Case 10 after sixteen days; in Case 11 after about two days.

Case 10 is remarkable in that the hemorrhage was very extensive in the left cerebral hemisphere and extended into both lateral ventricles, and yet the patient lived sixteen days.

In Cases 12 and 13 the ventricles were not implicated; in Case 12 life persisted a little over six days; in Case 13 almost two months.

It seems to be held by some that life must be terminated within a few days if the hemorrhage has destroyed a large part of one cerebral hemisphere, but Case 13 shows this is not necessarily so. In this case, in which life persisted almost two months, the clot was found partly encapsulated and measured 7 x 2.5 cm. It destroyed the lenticular nucleus, a large part of the posterior limb of the internal capsule and extended to the island of Reil. It is truly remarkable that the brain may be so severely injured without a speedy termination of life.

The cases, briefly presented, are as follows:

CASE 1 (No. 308).—*History.*—W. E. L., aged 52, became hemiplegic on the left side after an apoplectic attack November, 1905, and was unconscious twenty-four hours. He became able to walk later, and on different dates had a few convulsions. On Nov. 20, 1905, shortly after noon, he fell to the floor, and was put to bed perfectly conscious, but very gradually he began to lose consciousness, and in about an hour after the fall he was entirely unconscious. He then had a severe convulsion and died about 5 p. m. the same day. He lived about five hours after the beginning of the apoplectic stroke.

Autopsy.—A large hemorrhage had destroyed the right lenticular and caudate nuclei, and had filled all the ventricles, even the fourth, and had extended to the base of the brain. The hemorrhage was chiefly ventral to the lenticular nucleus, but extended into the front part of this structure, and had broken into the anterior part of the right lateral ventricle. Much blood was found over the pons and medulla oblongata.

CASE 2 (No. 370).—*History.*—John E., aged 26, was admitted to the hospital Sept. 15, 1906, and died Nov. 17, 1906. About five weeks before admission he took a large dose of quinin; he then became very drowsy and was unconscious for three days. When he recovered consciousness he was paralyzed on the left side. He was able to walk about a week later. The notes state that "yesterday" in the afternoon he had severe repeated convulsions, lasting until his death. His pulse reached 160; sweating was profuse; he vomited, and died the following day at 10:30 a. m. He, therefore, lived about eighteen to twenty hours, or at least from the afternoon of one day to 10:35 o'clock of the next day.

Autopsy.—The hemorrhage filled all the ventricles completely, destroyed the greater part of the right cerebral hemisphere, including the region of the lenticular nucleus and the right occipital lobe.

CASE 3 (No. 357).—*History.*—Charles S. was brought into the hospital Oct. 2, 1906, unconscious, and did not regain consciousness before his death, on Oct. 5, 1906. He was paralyzed on the right side. He lived at least three days.

Autopsy.—A hemorrhage was found measuring 2x7 cm. It destroyed the left lenticular nucleus, part of the posterior limb of the internal capsule, and extended almost from the posterior horn of the lateral ventricle to the anterior horn, and ruptured into the latter, distending it with a recent clot.

CASE 4 (No. 286).—*History.*—William U., aged 72, had had diabetes many years. He retired at his usual time the night before admission to the hospital, and was found at noon, March 15, 1905, lying at the side of the bed. When seen by his physician at 12:30 p. m. he was semi-conscious and paralyzed in the left upper and lower limbs. His speech was mumbling. He was brought to the hospital March 15 and died March 26. He, therefore, lived eleven days after the stroke.

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*From the Department of Neurology and the Laboratory of Neuropathology in the University of Pennsylvania.

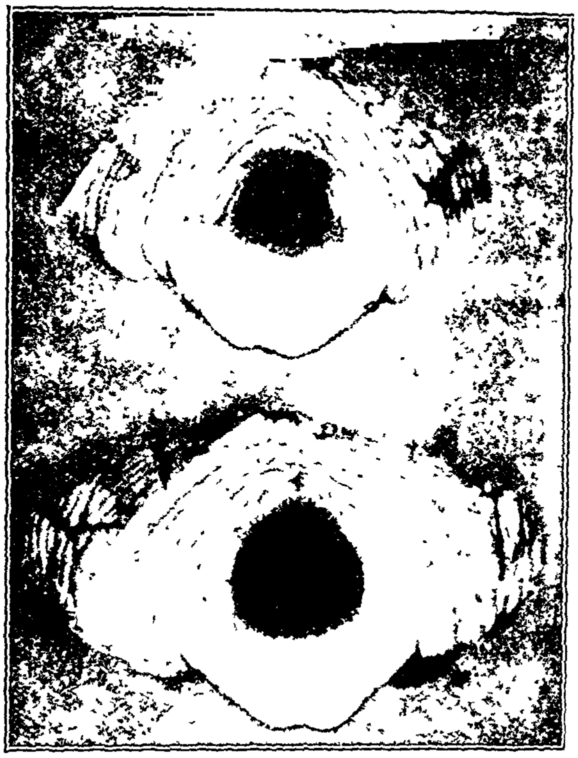
Autopsy.—A large hemorrhage was in the right internal capsule, optic thalamus and lenticular nucleus and a clot filled the center and part of anterior horn of lateral ventricle.

Case 5 (No. 144).—*History.*—Annie S., aged 35, was admitted to the hospital Nov. 5, 1897, in a semi-conscious condition, with a history of acute alcoholism of three weeks' duration. Some twitching of the facial muscles was noticed on the fifth day. The date of death is *not given, but the* statements show that she lived at least five days.

Autopsy.—A large hemorrhage was found in the left lateral ventricle, not extending into the posterior horn. The inner surface of the lenticular nucleus and the anterior portion of the optic thalamus were disorganized. The hemorrhage was evidently recent, the blood being dark colored and soft.

Case 6 (No. 50).—*History.*—James L., aged 76, was admitted to the hospital Nov. 5, 1897, *paralyzed on* the right side and deeply *stuporous. In the morning* of the same day *he had fallen* unconscious while walking. The day following admission he was more conscious and noticed those about him, but he gradually became more stuporous until his death. The date of death is not given in the notes, but the statements show that the patient lived at least until the next day.

Autopsy.—A large amount of clotted blood was found in the left lateral ventricle. Hemorrhage filled both ventricles, and on the left side had invaded the thalamus, the posterior portion of the lenticular nucleus, the internal capsule, and the adjoining part of the occipital lobe.



Photographs of sections made through the pons in Case 2, in which the greater part of the right cerebral hemisphere was destroyed and all the ventricles were filled with blood. The great distention of the fourth ventricle by the blood clot is shown. The surrounding tissue was stained from the blood. The patient lived eighteen to twenty hours after the attack began. (Photographs by Dr. Alfred Reginald Allen.)

Case 7 (No. 318).—*History.*—James W., aged 37, became paralyzed on the right side during the night of July 4, 1905. He improved greatly. He fell on the evening of Dec. 12, 1905, and became stuporous, had conjugate deviation of the head and eyes to the right, and paralysis of the face and limbs on the left side. He improved considerably. On December 23 it is stated that he had been more stuporous for a few days and his pulse was weaker. He was still more stuporous on December 24, did *not* change his position in bed, and the pulse was weak and rapid. The pulse was hardly perceptible on December 25, and the man was very weak. He lived five or six days in a very critical condition.

Autopsy.—A hemorrhage, 2.5x3 cm., was found in the occipital lobe. It extended into the lateral ventricle.

Case 8 (No. 336).—*History.*—Charles H., aged 80, was admitted to the hospital Oct. 28, 1899, and died March 11, 1906. He was brought from the out wards March 6, 1906, in an *unconscious condition. The* breathing was stertorous. The head and eyes were *turned to* the left. The right upper and *lower limbs and the right side of the* face were paralyzed. He died March 11, 1906, at 10:40 a. m. He lived about five days.

Autopsy.—The hemorrhage destroyed the posterior part of the left optic thalamus and of the posterior limb of the internal capsule and lenticular nucleus, and filled the descending horn of the left lateral ventricle.

Case 9 (No. 273).—*History.*—Harriet J., aged 44, fell to the floor and became unconscious on Jan. 14, 1905, at 9 a. m. When she was brought to the hospital the same day she was stuporous but could be aroused, and was paralyzed on the right side. Speech was almost unintelligible. From 11 a. m January 15 she was almost continually in convulsions until death. Lumbar puncture was *performed* at 5 p. m., and the patient died that evening. She lived about a day and a half.

Autopsy.—A large hemorrhage 6.5x4 cm., of recent development, was found in the left lenticular nucleus, extending into the internal capsule, and at the anterior end of the left ventricle had broken into the ventricle. Hemorrhage was found in both lateral ventricles, but mostly in the left.

Case 10 (No. 429).—*History.*—Ernest W. was admitted to the hospital Jan. 25, 1908, and died Feb. 10, 1908. While *working about the hospital on January* 25 he suddenly fell and became paralyzed on the right side in face and limbs He was *stuporous but could* be partly aroused. Loud commands were not heeded. He had dysphagia, aphonia and enuresis. *He showed no improvement* on February 2. The pulse was 105 and feeble. He lived sixteen days, a remarkably long time in consideration of the extensive hemorrhage.

Autopsy.—A hemorrhage occupied a large part of the posterior half of the left cerebral hemisphere, and both lateral ventricles contained blood. The clot within the hemisphere measured 5x5.5 cm. and at one level 5.5x6.5 cm.

Case 11 (No. 230).—*History.*—Miss H., aged 50, fell on the evening of April 19, 1904, became completely unconscious, and seemed to be completely paralyzed. On April 21 the pulse was weak and respiration stertorous. She died that afternoon. Life was prolonged almost two days.

Autopsy.—A large hemorrhage was found filling the whole of the left lateral ventricle but not extending into the right ventricle. The substance of the brain was implicated in the lesion only near the anterior part of the left lateral ventricle.

Case 12 (No. 241).—*History.*—Gottlieb R., aged 77, was admitted to the hospital July 19, 1904. The attack occurred suddenly during the night before admission, and the patient was found lying on the floor unconscious. Respiration was of Cheyne-Stokes type. The paralysis was complete on the left side The pulse was rapid. The patient was *partly* conscious on July 20, and improved somewhat later until July 24, but died July 25. He lived a little over six days.

Autopsy.—A hemorrhage measuring 4x5 cm. had destroyed the greater part of the right lenticular nucleus, the posterior part of the posterior limb of the right internal capsule, and extended beyond the *posterior portion* of the optic thalamus.

Case 13 (No. 348).—*History.*—Hesse, aged 40, was admitted *into the hospital in an* unconscious condition March 20, 1906. No history was obtainable. The patient had been found *in a stable. He had conjugate* deviation of the head and eyes *to the left and paralysis of* the right upper and lower limbs. *He was stuporous and* did not speak at any time. No marked improvement occurred during his *long* stay in the hospital. An operation was performed and a subdural hemorrhage over the left temporal region of the brain was removed. He died May 18, 1906, two weeks after the operation. This case was noteworthy because of the long duration of the hemorrhage.

Autopsy.—A large blood clot was found in the left cerebral hemisphere, measuring 7 x 2.5 cm. It had destroyed the lenticular nucleus, a large part of the posterior limb of the internal capsule, and extended to the island of Reil. The clot appeared of long duration and was *partly* encapsulated.

4409 Pine Street.

THE SPHENOIDAL SINUS.

A STUDY BASED ON THE EXAMINATION OF EIGHTY-FIVE SPECIMENS.*

JAMES A. GIBSON, M.D.
Professor of Anatomy, Medical Department, University of Buffalo.
BUFFALO.

In presenting this paper, I may say that I was led to take up this subject for several reasons, one of which was the difficulty I had in obtaining definite details concerning this cavity, another was that I believe its importance is underestimated by the majority of practitioners. I would bespeak careful consideration for this sinus, occupying as it does a central position in the cranial cavity, being on the one hand in close relationship with the most important and delicate parts of the encephalon, and on the other by its communication through the nasal cavity with things external.

It is much more difficult of approach than either of the other bony sinuses and presents decidedly more complicated relations. Compared with the ample investigation the maxillary and frontal sinuses have received, the sphenoidal sinus has been somewhat neglected. Much work must yet be done in this connection, particularly in regard to the lymphatics of the sinuses. Poirier and Cuneo say, "Our knowledge of the lymphatics of the mucous membrane which lines the cells and sinuses of the nasal fossæ is still imperfect. The small degree of development which these cavities present in the infant (the usual subject for experimentally injecting the lymphatics) renders the study of these lymphatics somewhat difficult. On account of the practical interest which is attached to this question from the standpoint of the pathogeny of certain cerebral lesions, consecutive to nasal infection, we think it advisable that further researches should be undertaken on this particular point." A study of even a very limited number of sphenoids will amply justify the above quotation. The number of important structures surrounding the sinus on almost all sides is great, in many cases the bony separation is of the thinnest and most delicate character and suggests great possibilities of cerebral involvement due either to trauma or infection.

Some of the important structures in relation with the sphenoidal sinus are, anteriorly, the ethmoid bone, containing the anterior and posterior ethmoid cells, in front of this the frontal and nasal bones, by means of which, as has been recorded,[1] the force of a blow received on the forehead has been transmitted as far back as the body of the sphenoid, resulting in the laceration of the internal carotid artery with fatal hemorrhage. The optic commissure and nerves are placed above and on either side of this sinus. The cavernous sinus and ophthalmic veins skirt the lateral wall of the sinus, as does also the internal carotid artery. Partly above and partly behind is the pons, with a large and important set of veins ramifying over the posterior wall and basilar process. The second division of the fifth nerve lies close enough to it to be occasionally encroached on by the sinus, as mentioned in one of my cases. The maxillary sinus may be separated from the sphenoid sinus by an exceedingly thin plate of bone and may, occasionally, communicate with it. Below the sinus is placed the vomer, strengthening the floor and adding to its thickness, and also incidentally to the difficulty of approaching it from this direction; the naso-palatine nerves intervene between the vomer and the sphenoid.

The data contained in this paper are the result of an examination of eighty-five sphenoidal sinuses. Obviously it was impossible to obtain perfect specimens in many cases. Some of the dry ones have been injured in the cutting, and some of the dissection specimens are partial. For these reasons I have included in this series material from which complete observations could not be made. This series will be continued at a later date.

The exact age could not be obtained in many cases and has frequently been estimated. The term "dry" signifies that all the soft tissues have been removed, while the term "dissecting-room" is applied to those specimens used just as they come from the dissecting table without a further removal of the soft structures. This would cause a very slight difference in measurements. Sagittal sections were made as nearly in the median line as possible, while coronal sections were cut through the middle of the pituitary fossa.

In laying down rules for the measurements it was found impracticable to select certain anatomic points as universal standards for measuring. The position of the sinus varies greatly, therefore no two points will give a universal maximum or minimum measurement. I have, therefore, taken the maximum measurement in the antero-posterior, transverse and vertical directions. This same difficulty is met with in obtaining the thickness of the walls of the sinus; I have taken the thinnest point as my standard, except where there is a very marked difference, as is usually seen in the posterior wall; here I have frequently given the maximum and minimum thickness.

These observations have been made with the following points in view:

1. The collection of definite data regarding the position, size and extent of the sinus.
2. The average thickness of its walls.
3. The relationship in size, if any, between the frontal, sphenoidal and maxillary sinuses.
4. The relationship, if any, between a large posterior nares and a small sphenoidal sinus, or the reverse.
5. The establishment of certain averages between anatomical points, obtainable in the living subject, which might be of assistance to the surgeon.
6. The recording of abnormalities and their possible influence on surrounding parts.

In this series there are males, 77; females, 7; unknown, 1. Total, 85.

The preponderance of male specimens renders any comparison under the head of sex of no value. It is, however, to be noted that the sinuses in the female specimens are not markedly smaller than in the males, averaging in the antero-posterior, transverse and vertical diameters 22 mm., 28 mm., 18 mm.; being, roughly, 1 mm. less in each diameter than the males.

Age.—Many of the ages given are estimated and may not be absolutely accurate. I do not find, however, any ground for the statement which has been made that the size of the cavity increases with age, this opinion is based on those cases in which the correct age was known. So far as my observations go, age gives no clue whatever to the size of the sinus; many old specimens presented large sinuses, while the reverse was often the case. The number of specimens used in taking the average age was 81; the average of this series is 47 years.

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] Lancet, Lond., 1891, p. 1277.

Nationality.—As might be expected in a collection of this description, the nationality is in most cases unknown. Specimens 28 and 29, both from Indians, present large nasal fossæ and well marked sinuses. Specimens 76 to 84, which are from a collection kindly loaned me by Dr. J. F. Fairbairn, are all from the postmortem room in Vienna. They are rather under the average in size, and have been classified under the heading "Austrian."

Method of Making Observations.—In the majority of cases a sagittal section was made as nearly as possible in the median line, as this gives the best general view. I wish to draw attention to the fact, however, that inasmuch as a sagittal section is the one usually shown in text-books and illustrations, the idea is gained that the antero-posterior diameter of this cavity is much greater than the transverse. This is not correct, so far as my experience goes, as the transverse diameter is slightly greater than the antero-posterior. There is more room for lateral expansion of this sinus into the wings of the sphenoid bone than posteriorly, and when the expansion of the air chamber takes place in the anterior direction, it usually does so as enlarged posterior ethmoid cells.

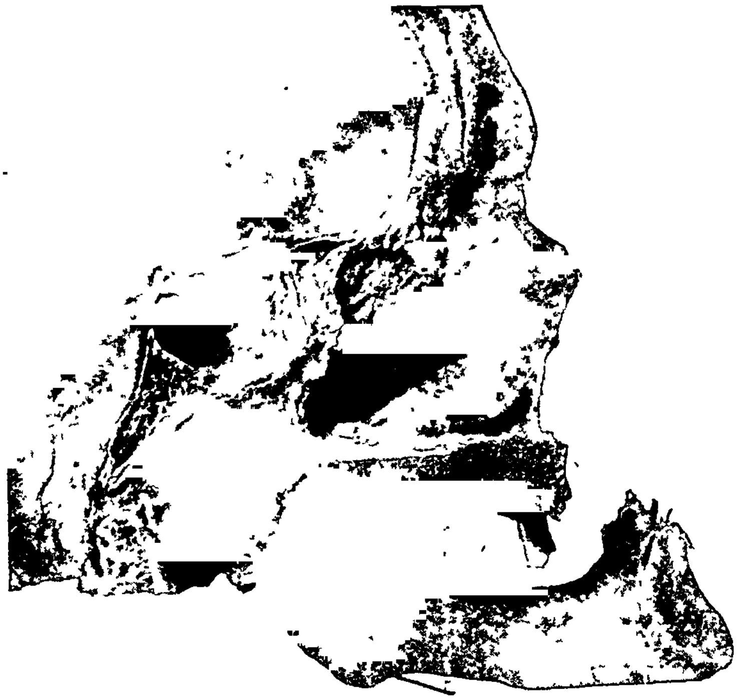

Fig. 1.—Typically placed large sphenoidal sinus. Note extremely thin posterior wall and small frontal sinus.

The coronal sections were cut about the middle of the pituitary fossa. A few horizontal and oblique sections were made, but they are not so satisfactory as the sagittal or coronal. The sectioning was done by means of an exceedingly fine hand-saw to minimize the injury to the delicate walls.

Situation of Sinus.—This is most frequently found in the anterior and upper part of the body of the sphenoid bone (Fig. 1). It is also found occupying the whole of the body in not a few instances (Figs. 2 and 5). It may be said, however, that the line of demarcation between the occipital and sphenoid bones is not well marked, and it is difficult to limit the body of the bone exactly. An analysis of the position shows the following:

Occupies whole body in 29 instances. about 30 per cent.; occupies the anterior and upper part in 51, about 60 per cent.; occupies the center of the body in 3 instances; extended into the basilar process in 2 instances; entirely absent in 1 instance; in 3 cases it was situated laterally in the body; in 1 case it was so far forward and so small as to make it doubtful whether it was the sinus or a posterior ethmoid cell. Some of the above are classified under two headings, e. g., as extending into the basilar process, and also occupying the entire body of the sphenoid.

Antero-posterior Diameter.—Utilizing 81 specimens presenting an obtainable antero-posterior diameter, the average was found to be 21 mm. (17/20 inch.) Excluding the Vienna series, in which the antero-posterior diameter was universally small, the distance was 23.25 mm. (24/25 inch).

Transverse Diameter.—Taken in a series of 70 specimens in which it was possible to take the complete diameter, not merely by doubling the half diameter, gave 29 mm. (1 3/16 inches).

Vertical Diameter.—Taken in a series of 75 specimens, gives an average of 18 mm. (¾ inch).

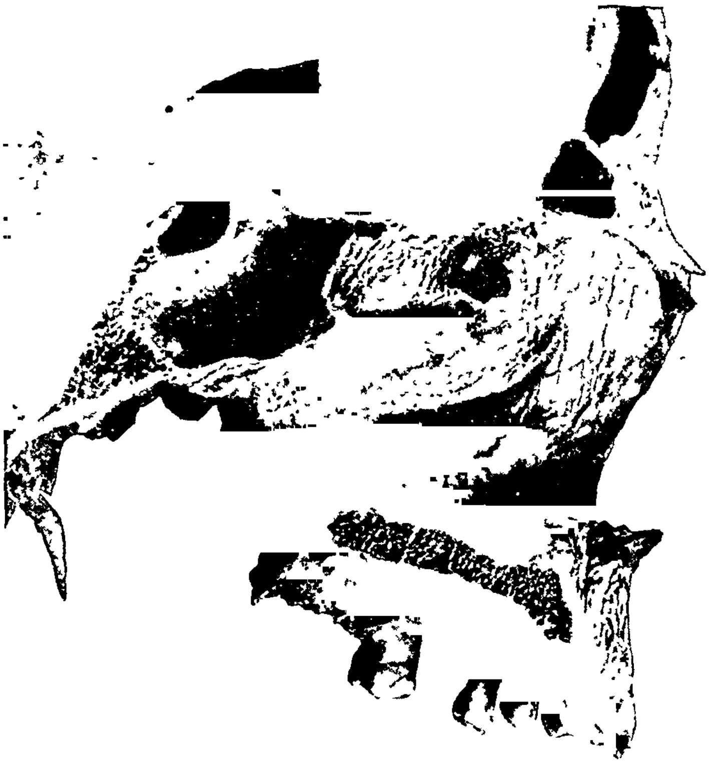

Fig 2.—Typical reniform sinus, large sphenoidal accompanying large frontal sinus.

Thickness of the Sinus Walls.—From the fact that in many of the specimens the walls had been injured somewhat, I have made no exact averages, but as would be expected, the anterior wall is much the thinnest, being largely made up of the delicate sphenoidal turbinate bones. From observations made on most of the specimens I would estimate the average thickness of the anterior wall to be, in the dry specimens, not more than from .25 to .50 mm. (1/100 to 1/50 inch). The roof of the sinus varies in thickness more than the anterior wall. It is sometimes as thin as .25 mm., but is oftener approximately 1 mm. in thickness, rarely is it over 2 mm. thick (1/12 inch). The floor is, as a rule, thicker than either of the other boundaries. The thickest portion of the floor is almost always found posteriorly (Fig. 1). due to the fact that the body of the sphenoid is buttressed on the basilar process of the occipital posteriorly and inferiorly. The thickness of the floor ranges from .25 mm. to 9 mm. (1/100 to almost ⅓ inch). Rarely is it as thin as the first mentioned figure, however. The thickness of both the floor, and more particularly of the posterior wall, depends, in large measure, on the position of the sinus in the body of the bone. As has been pointed out, in about 60 per cent. of cases the sinus is placed decidedly forward, which increases the thickness of both the posterior wall and the floor, but particularly the former.

The thickest part of the posterior wall of the sinus is always found on the same level as the floor. Thus, in operating in this cavity, the possible danger of penetrating the posterior wall is lessened by avoiding the upper part of the sinus wall posteriorly. The variation in the thickness of the posterior wall is from .25 mm. to 10 mm. (1/100 to 2/5 inch). The same sinus may present a great difference in thickness between the upper and lower parts of the wall.

Distance of the Anterior Wall of the Sinus in Front of Hamular Process.—This process appears in the form of a hook which is directed downward and outward from the lower extremity of the internal pterygoid plate. It forms the pulley-like arrangement about which the tendon of the tensor palati muscle winds. It can be felt directly behind the last upper molar tooth, and may give some information as to the situation of the sinus from below. I have found that the anterior wall of the sinus usually projects in front of a plane drawn vertically through these processes (Fig. 6); in no case did I find that it fell posterior to this plane. The average distance in front of this plane was 7 mm. (slightly over 1/4 inch). In 9 instances it corresponded with this plane. In 26 it was impossible to estimate it. These skulls were not sawed in a frame or from definite angles, so that at times, there was difficulty in striking a perpendicular plane from which to estimate this point.

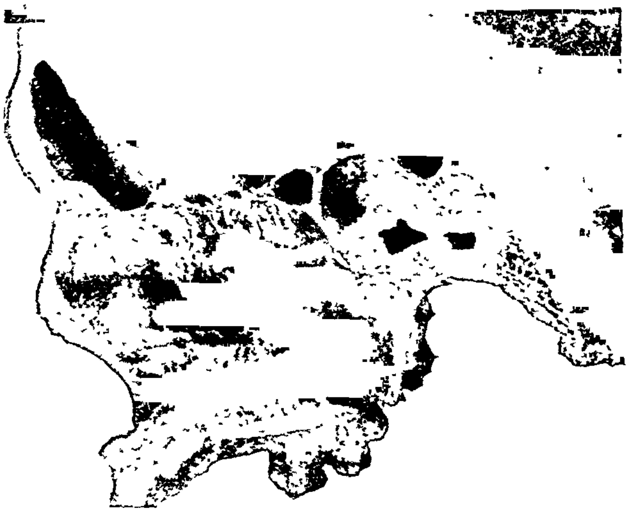

Fig 3.—Sinus with very thick bony lamina placed somewhat to one side, large frontal sinus

Thickness of Bone Between Optic Foramen and Cavity of Sinus.—The distance between the optic foramen and the sinus was taken in many instances. This was done with the view of drawing attention to the close proximity of important nerve and other structures which might possibly be affected by disease of the sinus. The bony wall at this point is very thin, varying from .25 mm. to 1 or 2 mm., and averaging not over .5 mm. (1/50 inch).

Distance Between the Anterior Wall of the Sinus and the Inferior Extremity of the Nasal Bone.—There are a number of circumstances which modify this distance, as well as the one which follows it. Some of these are, (1) the degree of prominence of the nasal bone; (2) the position of the sinus cavity in the sphenoid, the more anterior this is the less the distance; (3) the number and size of the ethmoid cells, the larger and greater the number, the farther back will the anterior wall of the sinus be, and, (4) the conformation of the skull in a general way, especially its antero-posterior diameter.

In estimating this distance, the lowest part of the nasal bone was taken, and the most anterior part of the anterior wall as nearly as possible equidistant between the inferior extremity of the nose and the anterior nasal process. The average obtained from measurements in 80 specimens was 57 mm. (2½ inches). The greatest distance was 64 mm.; the least distance was 40 mm.

Distance Between the Anterior Wall of the Sinus and the Anterior Nasal Spine.—The same series of 80 specimens was used and gave an average of 57 mm. (2½ inches). The greatest distance was 71 mm. (2¾ inches); the least was 45 mm. (1¾ inches.)

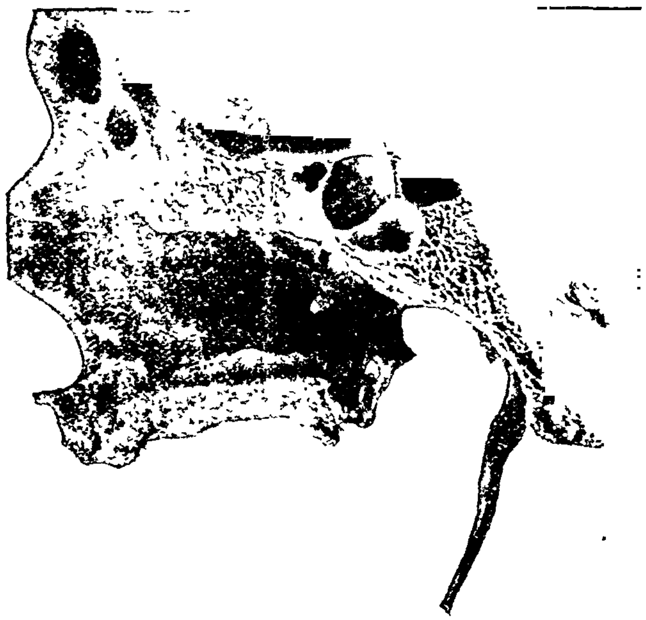

Fig 4.—Shows sinus placed anteriorly and superiorly inclining to the vertical type.

Size of the Posterior Nares.—Considering the relation borne by the posterior nares to the sphenoidal sinus, it had struck me that there might possibly be some relationship in size between them. Small posterior nares might occur because of a large sinus, and vice versa. There were utilized for this comparison 47 specimens, most of them dry, which would give a slightly greater measurement than the recent specimens. The average transverse measurement was 27.1 mm. (1 inch). The average vertical measurement was 25.59 mm. (about 49/50 inch).

It was observed that quite frequently there was considerable difference in the measurements made on the two sides of the posterior nares. This was more noticeable in the recent, but was also appreciable in the dry specimens.

As a result of this comparison, I may state that no relationship was observable. There were specimens presenting small nares with small sinuses; there were also large nares concomitant with large sinuses. This feature cannot be counted on to give any information as to the size of the sphenoidal sinus, the reason for this being that the sinus, when enlarged, extends laterally, forward or upward, and not downward.

General Shape of the Sphenoidal Sinus.—This depends very largely on the shape of the body of the sphenoid bone; in many instances the cavity is of an irregular form. On observation, after a sagittal section has been made, the most common form is somewhat reniform, with the concavity upward (Figs. 2 and 5). This occurs in the specimens in which the entire body of the bone is occupied by the sinus; the next most common type is a more or less vertical or upright one which occurs in those specimens in which the cavity is placed somewhat anteriorly (Fig. 6); this variety presents a thick posterior wall at the lower part. There seems to be a third type in which the cavity is located centrally in the body of the bone and which may be irregularly ovoid in shape. There are also a certain few sinuses which are extremely irregular in shape. The reniform type is rather apparent than real, for in many cases the transverse diameter exceeds the antero-posterior (Fig. 8). Specimens 6, 7, 76, show a marked transverse diameter, in one case involving the great wings of the sphenoid.

Laminæ.—Usually a vertical, more or less, median lamina is presented (Figs. 3 and 7). This, however, may be displaced either to the left or right and is frequently obliquely placed. This lamina divides the sinus into two parts, and so far as my observations extend, there has not been any communication between them. I have not found any undue preponderance in size of the right over the left portion, or the reverse. Many small subsidiary laminæ are seen springing from the walls of the sinus (Figs. 4 and 5), usually the posterior and external walls. These are directed forward and inward and vary much in appearance; they may be thick and strong, or thin and delicate. Sometimes they occupy a more or less horizontal plane. They serve to strengthen the bone, and also produce pockets or fossæ in the sinus. Some specimens are absolutely devoid of any suggestion of a lamina. Others present almost a reticulated appearance, due to the number and complexity of their laminæ. In one or two specimens the median vertical lamina was so thick and dense as to make it impossible to break it down by anything but a chisel (Fig. 3).

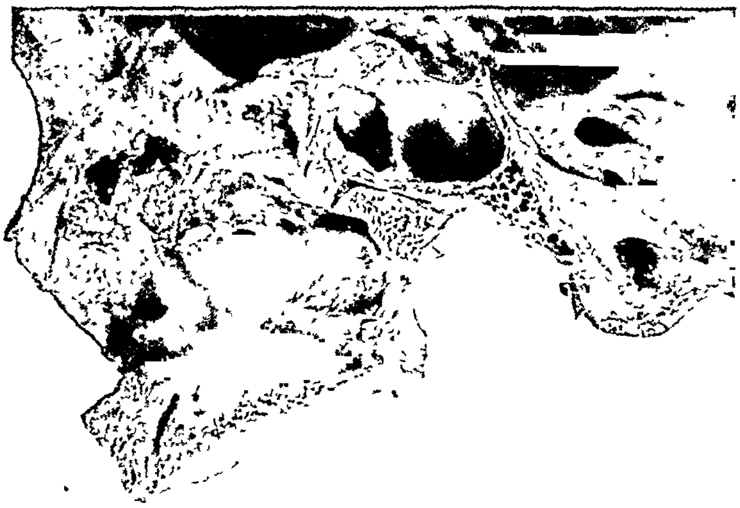

Fig. 5.—Shows diverticulum 25 mm. (1 inch) deep extending into pterygoid process and encroaching on sphenoidal fissure.

Diverticula were found in 55 of the 85 specimens and by far the most usual situation of these was in the pterygoid processes (Figs. 5 and 6); 25 specimens showed diverticula invading this process. In 26 cases, the right side of the sinus was marked by diverticula, and in 21 the left. The orbital cavity ranks next to the pterygoid process in the frequency with which it is approached or invaded, there being 15 cases in which it was involved. It is to be remembered in this connection that the orbital process of the palate bone very frequently contains a cell. This cell may communicate with the sphenoid sinus, and in these instances, is practically a diverticulum extending forward from the sinus into the orbital cavity to a greater or lesser degree dependent upon the size of the orbital cell; in fact, it is not unknown for the sphenoidal and maxillary sinuses to communicate with each other by means of this cell. The walls of the cell are exceedingly thin and, as a result of this arrangement, there is a very close relationship between the posterior part of the orbital cavity and the sphenoidal sinus.

The anterior clinoid process was invaded in 4 cases; the posterior clinoid process in 1 case; the ethmoid process in 1 case; the sphenoidal fissure in 1 case; the foramen rotundum in 1 case; the basilar process of the occipital bone in 3 cases. In 2 cases the diverticula approached very closely the cribriform plate of the ethmoid. The deepest diverticulum measured (Fig. 5) was 25 mm. (1 inch); there was also one measuring 14 mm. (11/20 of an inch). Diverticula in normal conditions would be a matter of little interest, but in disease, if pus were present, they would complicate the case and render drainage difficult. It is also a question whether a diseased sinus might not cause trouble in the orbit in those cases where they are closely approximated.

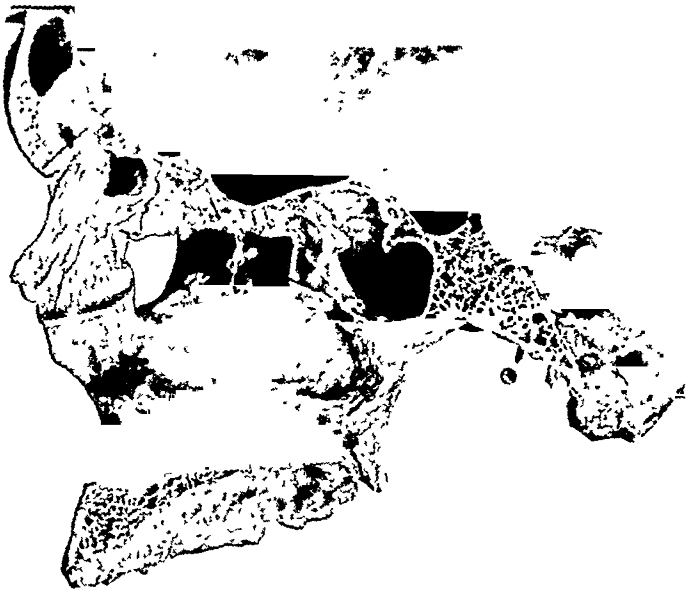

Fig 6.—Shows vertical type with diverticulum and concomitant large maxillary and frontal sinuses.

Communications.—The openings from the sphenoidal sinus, as a rule, lead into the upper and posterior part of the nasal fossæ. They are usually situated a little more than half way between the floor and the roof in the anterior wall of the sinus, being more frequently of an oval shape and set somewhat obliquely. In size they vary from 1.5 mm. by 1 mm. to 8 mm. by 5 mm. (extreme measurements in my series). The average was 4.6 mm. by 3.5 mm. Leaving out the extremes and based on a general observation, 6 mm. by 3 mm. (¼ by ⅛ inch) would seem to be the size of the opening most commonly met with. In many cases, however, the opening is circular in form. When oval the openings usually approach each other at their upper extremities. The openings sometimes communicate with the posterior ethmoid cells. This was thought to occur in one of my cases, but owing to injury to the specimen it was impossible to be sure of this fact.

A condition quite often is present in which the posterior cells are large and over-ride the sphenoidal sinus (Fig. 5). When this is so, the opening must almost of necessity take place into the ethmoid cells. In one specimen, No. 65, a very curious condition obtained. In this case there were two openings, oval in shape, 6 mm. by 4 mm. in size, leading through the floor of the sinus into the nasopharynx. These openings were of regular outline, placed symmetrically on either side of the vertical median lamina, and were additional to the two openings usually found communicating with the nose. Whether these openings were the result of disease or not I am unable to say. There is also present in this case a very large and irregular opening into the maxillary sinus which looks like the result of disease. The individual was a male of 36 years, who died of lateral sinus thrombosis.

Both openings into the nasal fossæ are not always on the same level. In specimen 69 there is an irregular opening on the left, and an oval opening at a somewhat higher level on the right side. The size of the opening in the dry specimen is no criterion of its size during life, for in very many cases the mucous membrane is found to overlap the bony opening and render it much smaller.

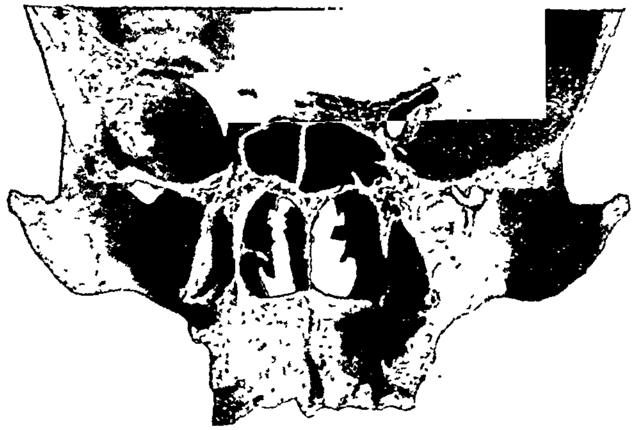

Fig. 7.—Coronal section through sinus, showing vertical median lamina and opening into posterior part of nasal cavity.

Interesting Features.—Under this heading, I will take up various points not included in the headings on the large outline. The first point is whether there is any definite relation in size between the bony sinuses of the skull; that is, given a small sphenoidal sinus. does it follow that there will be found a large maxillary or frontal sinus to compensate for the smallness of the sphenoidal? It is almost impossible accurately to compare the size of these sinuses; it would be a task of great difficulty to take their cubic contents, so that these findings are the result of ocular comparison only and not of systematic measurements.

I have found that quite frequently a large sphenoidal sinus is concomitant with large frontal and maxillary sinuses (specimens 5. 7, 12, 13, 14. 20. 30. 35 and 53). There are also a number which show sphenoidal and frontal sinuses occurring concomitantly (specimens 10, 21, 27, 32, 39, 55, and 67). Specimens are also found in which small sphenoidal sinuses and large frontal sinuses are associated in the same skull, and vice versa. I think, therefore, that it can not be said that any definite relationship in size obtains between the different bony sinuses of the skull. I believe that it would be impossible to forecast with any accuracy the probable size of the sphenoidal sinus if the size of the frontal and maxillary sinuses were known.

As to the question of the relationship between the size of the posterior nares and the sphenoid, my specimens do not show anything definitely characteristic. In specimens 2, 3, 7, 8, 14, 15 and 53, the size of the posterior nares is greater than the average, and yet there occurs also a large sphenoidal sinus. In specimens 10, 16, 19 and 28. the diameters of the posterior nares are below the average, and there is also a small sphenoidal sinus. This is to be accounted for by the fact as mentioned before, that the size of the sinus is increased more in the transverse and antero-posterior directions than in the vertical.

In specimen 4 there is seen an extremely thin plate of bone of not more than .25 mm. (1/100 inch) separating the sinus from the sphenoidal fissure; at the inner angle of the fissure there is situated the ophthalmic vein with the sixth, fifth, third and fourth nerves in the order given, from within outward.

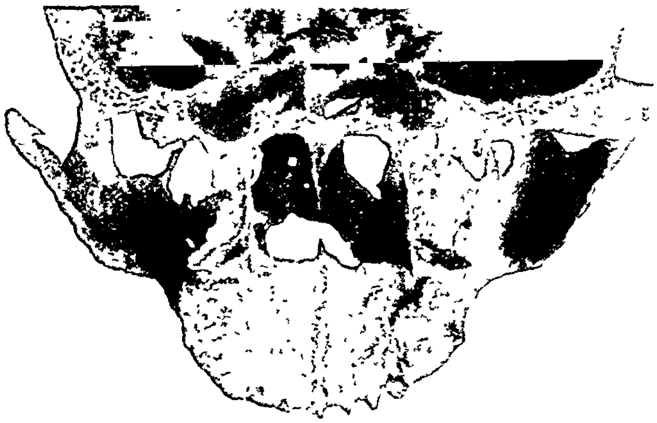

Fig 8—Coronal section through sinus of extreme width, showing involvement of lesser wings of the sphenoid bone.

In specimen 7 a sinus of extreme transverse diameter is seen invading the great wings of the sphenoid (Fig. 8).

In specimen 11 is a large diverticulum, 14 mm. wide at the base, invading the pterygoid process of the left side, and contrary to what might reasonably be expected. The left posterior nares is much larger than the right, and the width is greater than the average. This is important as showing how little one can be guided in one's estimation of the size of the sinus by the size of the posterior nares. An interesting fact is that any operation approaching the sinus by way of the post-nasal space and from below would be unsatisfactory in many cases from the fact that the floor is sometimes quite thick, and that the sinus is often situated far forward (Fig. 4). (Some examples of the difficulty of such an operation are specimens 17, 19, 20. 22. 24, 34. 40, 51 and 52.) I have tried to pass a probe from the anterior nares into the opening of the sphenoidal sinus in many of the specimens and find that in most instances it can not be done without the removal of some portion of the nasal turbinates. In some few cases, where the turbinates were very small, it could be done.

Any rule for the passage of a catheter into the sphenoidal sinus must necessarily be imperfect if for no other reason than that the nasal turbinates vary greatly. Added to this is the liability of variation of the sinus opening. Adding the minimum distance from the anterior superior nasal spine to the shortest antero-posterior sinus I get as a result 57 mm. (2⅛ inches). This will give the least distance from the anterior nasal spine to the posterior wall of the sinus, and furnish a conservative distance to which an instrument may be inserted without fear of entering the cranial cavity.

I would point out, in conclusion, that clinically this sinus is analogous to the tonsils in that it stands in such a position that it is prepared to receive and transmit infection primarily entering by way of the nose or nasopharynx.

I desire to express my thanks to Dr. A. T. Kerr, of Cornell University, Ithaca, for the loan of a series of nine specimens; also to Dr. J. F. Fairbairn, of Buffalo, for a similar loan of nine specimens, as well as to others who have loaned single specimens for use in this work.

170 Mariner Street.

THE PRESENT STATUS OF THE RADICAL OPERATION FOR EMPYEMA OF THE SPHENOID SINUS,

WITH DEMONSTRATION OF A NEW INSTRUMENT.*

ROSS HALL SKILLERN, M.D.
PHILADELPHIA.

Rhinologists concur in the opinion that when pus is being secreted by one or more of the accessory sinuses of the nose giving rise to symptoms, in spite of continued conservative treatment, a radical operation is imperative for a permanent cure. By the term radical I mean an operation which not only opens the sinus, establishing free communication with the nasal cavity, permitting thorough inspection and treatment, but which also prohibits, so far as we are able, a reinfection, or, in case a reinfection occurs, which allows the sinus to heal of its own accord with no discomfort to the patient other than the symptoms of an ordinary acute rhinitis.

The surgical relations of the sphenoid sinus from a rhinologic point of view embrace naturally those structures which are encountered during an operation in this region. We know if a straight line is drawn from the anterior inferior nasal process over the exact center of the middle turbinate it will strike the anterior wall of the sphenoid sinus (Zuckerkandl's line). While a number of German rhinologists[1] have taken exception to this line leading to the ostium of the sphenoid, nevertheless it will invariably strike either the anterior wall of the sphenoid, as Zukerkandl himself states, making no mention of the ostium, or the wall of a spheno-ethmoidal cell, which to all intents and purposes may be reckoned as a sphenoidal sinus divided by a horizontal partition.[2] The distance between these two points, according to Grünwald[3] and Hajek,[4] rarely exceeds 8 cm.; indeed, if one has passed a sound in this direction, 7.5 cm. in small heads or 8 cm. in large heads, measuring from the anterior inferior nasal process, the ostium and the sphenoid sinus are almost certain to have been penetrated.

The position of the ostium in the wall of the sphenoid sinus determines largely the possibility of sounding without more or less injury to the middle turbinate. The opening usually lies in the upper third of the anterior wall, the seat of predilection being deep in the spheno-ethmoidal fissure. The closer it lies in proximity to the septum (sphenoid rostrum) the more favorable the locality for sounding and the lower the ostium is situated in the anterior wall the deeper the sound will penetrate the sinus.

The position or condition of the middle turbinate also plays an important rôle in the procedure. Under normal circumstances the convexity of the posterior half hides the anterior wall of the sphenoid completely from view, and not until this has been removed and the pars nasalis of the anterior sphenoidal wall brought to view can an operative procedure be carried out in the neighborhood of the posterior olfactory fissure with any degree of safety. On the contrary, an atrophied middle turbinate or one which is strongly rolled inward certainly contributes to the difficulty of the operation. Deviated septums, septal spurs and ridges, polypi, etc., may add considerably to the difficulties previously mentioned. Suppose, then, under some favorable circumstance, we were able to see most of the anterior wall or pars nasalis by means of anterior rhinoscopy, the only remaining structure which might prevent the ostium from being visible would be the superior turbinate, and then only in the event of a deep spheno-ethmoidal recess, the ostium lying laterally and deep in the pars ethmoidalis. It is by no means necessary to have the ostium in view while endeavoring to pass the sound, but to my mind it is absolutely demanded when operative measures are about to be undertaken;[5] the anatomic relations of the superior wall to the optic nerve and pituitary body and the lateral walls to the sinus cavernosus and carotid artery, to say nothing of the brain itself, makes this region of operating one of extreme danger unless the operator has perfect vision of the entire field. Chiari[6] states that it rarely happens that one is required to open the sinus when the ostium is invisible. The various radical operations performed by operators at the present time have the same end in view, i. e., complete removal of the anterior wall of the sinus. This prevents any return of the disease, so far as retention symptoms are concerned, thus making the sinus practically continuous with the lateral wall of the nasal cavity. The ways and means employed, however, are many and varied. The operation is best performed under cocain, although some English writers[7] prefer choloroform. Operations may be divided into: 1. Extra-nasal, (a) frontal, (b) maxillary, (c) oral. 2. Endo-nasal, (a) indirect, (b) direct.

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] Zuckerkandl, E.: Normale u. patholog. Anat. d. Nasenhöhle, 1893, i, 338; Hansberg: Die Sondirung d. Nebenhöhlen d. Nase, Monatschr, f. Ohrenh., 1890; Zarnico, Carl: Die Krankheiten d. Nase u. d. Nasenrachens, 1894, 276.

[2] This condition is present in every fourth case, according to Hajek. Sounding will establish an opening above the sphenoidal ostium, the measurement from the point of the sound to anterior inferior nasal spine being also over 8 cm.

[3] Die Lehre d. Naseneiterungen, Munich, 1896.

[4] Pathologie u. Therap. d. entzündl. Erkrank. d. Nebenhöhlen d. Nase, 1903, 2d ed., 259.

[5] Compare Coakley, G. C., who does not advocate operative measures unless the region is plainly visible to the eye. An Easy Method of Entering the Sphenoidal Sinus for Diagnostic Purposes, Laryngoscope, 1904, 271.

[6] Die Krankheiten d. Nase, 1902, 258.

[7] Tilley, H.: The Symptoms, Diagnosis and Treatment of Chronic Suppuration in the Sphenoidal Sinus, Brit. Med. Jour., 1905, ii, 1198. Discussion Thomson, St. Clair.

THE EXTRA-NASAL OPERATIONS.

Frontal.—Opening the sphenoid through the frontal sinus is not performed unless the frontal is diseased and is but a step in that operation.[8] Opening through the ethmoid from the internal angle of eye. This operation was first suggested by Grünwald,[3] later by Kuhnt,[9] and is only to be recommended in those rare cases of ethmo-sphenoid disease where there is present bulging of both lamina papyracea and nasal wall, with severe ocular symptoms, the endo-nasal operation having already been carried out with no relief to the patient.

Jansen's Method.—Jansen,[10] of Berlin, makes a large opening in the canine fossa through the mouth, resects the medial wall of the maxillary sinus, together with the middle and inferior turbinate. The ethmoid and finally the sphenoid sinuses are now opened. The sphenoid is curetted and the entire cavity tamponed from the maxillary sinus, the oral opening being closed after the second or third tamponade. Berens[11] uses Jansen's method when there is marked deflection of the septum toward the diseased side, especially at its posterior end, even when the antrum is not diseased. Furet's[12] method is the same as Jansen's, except that the ethmoid cells are not opened. The disadvantages of these operations are:

1. Needlessly opening a healthy sinus.
2. Danger of wounding structures situated in the fossa-pterygo-palatina and causing profuse hemorrhage and subsequent disturbance of the sensibility of the face.
3. Danger of injury to the optic nerve.

The objections to Beren's procedure are: 1. Owing to the great tendency of the sphenoidal sinus to contraction, it must be treated locally for at least six weeks after the operation. It is not a wise plan to keep the fascial wall of the maxillary sinus open for that length of time.

2. The deviation of the septum is so great as to require correction. The operation on the sphenoid could easily be carried out after the preliminary submucous resection was done.

Reichelt[13] reported a case in which he removed the anterior and inferior wall of the sphenoid sinus through the mouth. The objections to this operation are that the sinus is not always present, and the sinus often assumes sizes and shapes which make the method impracticable.

THE ENDO-NASAL OPERATIONS.

Indirect.—Killian's[14] method consists in resecting the anterior third of the middle turbinate; the bulla is then opened and the instrument pushed through the basal lamella of the middle turbinate and continued through whatever ethmoid cells are found in the way, finally reaching and opening the sphenoid sinus. This method can be carried out in those cases where the pars ethmoidalis of the anterior sphenoid wall is sufficiently broad, but the instrument must make a passage from the ethmoidal bulla to the posterior ethmoidal cells, as well as the superior nasal passage and the spheno-ethmoidal recess, before it can penetrate the sphenoidal sinus.

This procedure can easily miscarry when an unusually large posterior ethmoid cell is present, for, according to Onodi,[15] the sphenoid sinus is small in these cases and can easily be missed. The principal objection to this operation, to my mind, is the fact that one is always working in the dark, and on account of the many anomalies found in this region, no matter how proficient one may be in the regional anatomy of the part, the operation is dangerous.

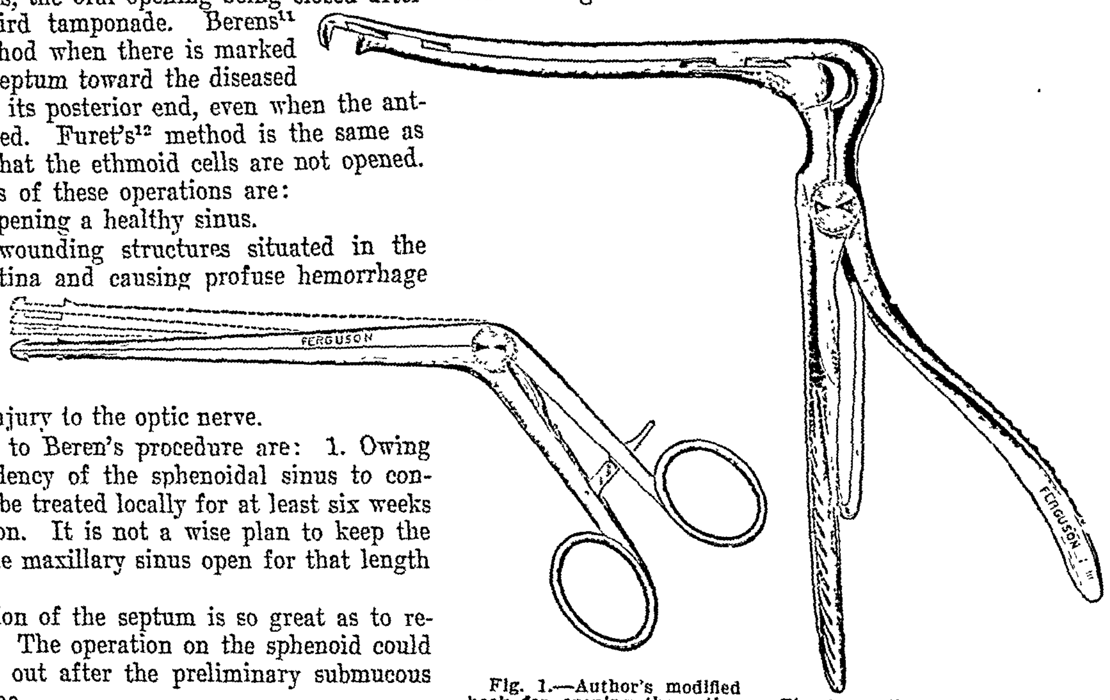

Fig. 1.—Author's modified hook for opening the ostium sphenoidale.

Fig. 2.—Author's modification of Hajek's bone forceps.

Shadle, of St. Paul, operated on the anterior wall of the sphenoid under control of a mirror held in the choanæ.

Direct.—This operation is preceded by a resection of the middle turbinate and often the posterior ethmoidal cells, the entire operative field being in plain view. Hinkel[16] breaks through the anterior wall with a sharp spoon, subsequently making the opening sufficiently large with a drill.

Schaffer[17] opens with an instrument similar to a sound and curette combined and apparently operates entirely by the sense of touch, for he says: "When one feels by raising and depressing the handle of the sound that the sphenoidal sinus lies fairly deep at its posterior end, after thorough cocainization, one introduces the spoon-shaped sound and presses the anterior wall of the floor until it breaks through, then removes the depressed splinters with bone forceps."

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[8] Killian and Krause: Die Killiansche Radicaloperation chron. [illegible] Arch. f. Laryngol., 1902, xiii; Killian, G.: [illegible] chron. Kiefer- u. Stirnhöhleneiter- [illegible] deutsch. Laryng., 1904; Winkler, E.: Zur Therapie d. Entzündungen d. Siebbeinzellen u. d. Keilbeinhöhle. Neunt. Vers. Deutsch. Otol. Gesellschaft, 1900.

[9] Ueber d. entzündl. Erkrank. d. Stirnhöhle u. ihre Folgerzustände, 1895.

[10] Zur Radicaloperation chron. combinirter Empyem der Nase, Internat. Med. Cong., 1897.

[11] The Sphenoid Sinus, Trans. Amer. Laryngol. Assn., 1905.

[12] Cited by Onodi.

[13] Ein Fall v. latenter Keilbeinhöhlenkaries mit Abduzenslähmung, etc., u. Behandlung vom Rachen her., Monatschr. f. Ohrenh. 1903.

[14] Ueber d. Therapie d. Entzündung d. Siebbeinzellen u. d. Keilbeinhöhle. Neunt. Vers. d. deutsch. Otol. Gesellschaft. 1900.

[15] Die Behandlung d. Krankheiten d. Nase u. d. Nasenrachens, 1906, 357.

[16] Symptoms and Treatment of the Sphenoidal Sinus, 1902.

[17] Ueber acute u. chron. Erkrankung d. [illegible] med. Wochschr., 1892, 1062; Die [illegible] Heymanns Handbuch, 1900, iii, 117[illegible].

Ingals and Spiess[18] bore through the middle turbinate with a trephine. Douglass[19] says: "The best, safest and more rational method of opening the sphenoidal sinus is through the posterior ethmoidal cell. Stacke[20] uses an electric drill, a procedure which is simple and easily carried out, but requires a steady hand and an exact topographical knowledge; otherwise there is great danger of causing serious injury to the dura, optic nerve, internal carotid or sinus cavernosus. Zarniko[1] and Gmeinder[21] use a specially constructed chisel which is considered to be particularly adapted to those cases in which the posterior olfactory space is very narrow. Halle[22] uses a chisel and hammer to open the sinus, followed by an electric fraise to enlarge the opening. Stoeckel[23] also uses an electric fraise, but has had a special handle constructed similar to that of a pistol. He controls the current by means of the trigger and claims the operation can be performed easier than with Hajek's hook. The burs on the fraise are made with the cutting edges on the side.

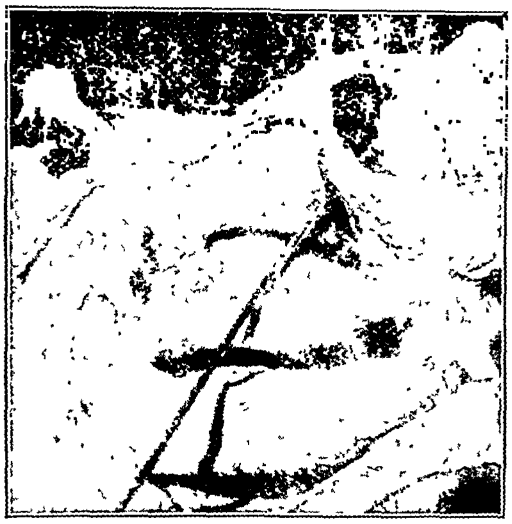

Fig. 3.—Probe passed into sphenoid sinus through natural ostium. Showing portion of middle turbinate to be removed.

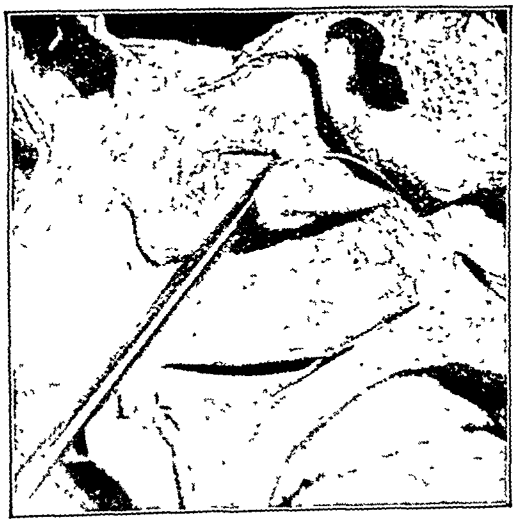

Fig. 4.—After the middle turbinate has been divided by the scissors, the snare is used to remove the posterior end.

Hajek's Method.[24]—Noting that the posterior ethmoidal labyrinth covered about two-thirds of the anterior wall of the sphenoid sinus (pars ethmoidalis) and that only one-third remained free (pars nasalis), Hajek conceived the idea to clear away first the posterior ethmoidal cells in conjunction with whatever part of the middle turbinate was necessary, which would leave the entire anterior wall in sight. He says:

> After complete anesthesia (local or general), I introduce my ethmoid hook into the posterior part of the rima olfactoria against the anterior wall of the sphenoid sinus as high as possible without using the slightest possible force. Since the point of the hook is always directed inferiorly in an injury to the lamina cribrosa is absolutely excluded. I then turn the hook so that the point penetrates the internal wall of the ethmoid labyrinth. When I now press the handle of the hook against the septum I am sure that the hook has penetrated deeply into the ethmoidal labyrinth. The internal (nasal) wall of the labyrinth with that portion of the middle turbinate which lies beneath is torn through by means of a strong pull on the hook. The pieces which remain hanging can easily be removed with a pair of good nasal forceps or the conchotomes of Grünwald or Hartmann. The advantage of the hook in this procedure is not to be underestimated. It is so slender that its point can be easily seen and followed during every phase of the operation, while the curette hinders the light and requires too much room. . . . The bleeding is usually trivial and is almost always controlled by wiping with sterile gauze. . . . I now proceed to resect the anterior wall of the sphenoid sinus.[25] To this end I use my bone forceps, but the ostium sphenoidale must have a definite width before we can introduce them into the sphenoid sinus. This I accomplish by means of my hook tearing the inferior edge of the ostium piece by piece until the opening is sufficiently large to permit the passage of the bone forceps.

This operation, with a few minor details, has always appealed to me on account of its practical soundness in keeping the operative field always before the eye. One phase of the operation I believe, however, susceptible to improvement, viz.: opening the ostium sphenoidale with a hook. As Zuckerkandl,[1] Onodi[26] and others have pointed out, the superior and lateral walls of the sphenoid sinus, so far as thickness and position are concerned, are in direct relation with vital structures and, indeed, it is not uncommon to find dehiscence of either of these walls where the cavity of the sinus is only separated from the cavernous sinus by a thin wall of mucous membrane. Holmes[27] and Onodi[28] report a number of sections where the optic nerve was contained within the sinus.

I noted, while experimenting on the cadaver, that in many instances it required considerable

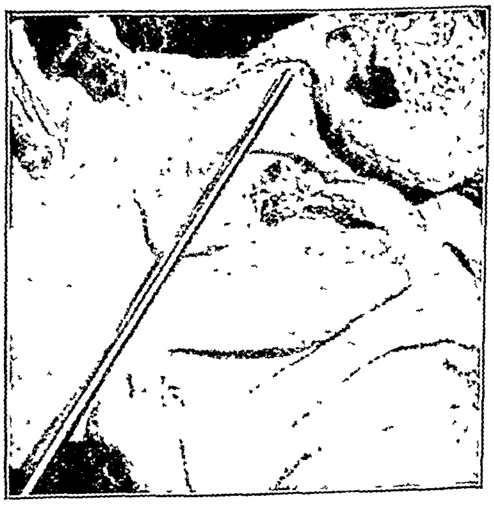

Fig. 5.—Demonstrating the position of Hajek's hook before the superior turbinate is cut through.

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[18] Zur Chirurgie d. Sinus sphenoidalis, Arch. f. Laryngol., vii.

[19] Nasal Sinus Surgery, p. 162, Phila., 1906.

[20] Ueber d. Verwendbarkeit d. Elektromotors bei Operationen inbes. b. Nasen- und Ohroperationen, Arch. f. Ohren., 1897.

[21] Instrument Catalogue of H. Pfau, Berlin.

[22] Berliner klin. Wchnschr., 1906, 1372.

[23] Die breite endo-nasale Eröffnung d. Keilbeinhöhle mit d. Fraise, Arch. f. Laryngol., xvii.

[24] Zur *Diagnose u. intranasalen chirurg.* Behandlung d. Elterungen d. Keilbeinhöhle u. d. hintern Siebbeinzellen, Arch. f. Laryngol., 1904, xvi.

[25] Compare, Onodi, A.: Zur Frage d. endonasalen breiten Eröffnung d. Keilbeinhöhle, Arch. f. Laryngol., 1904, xvi.

[26] Die Dehiszenzen d. Nebenhohlen d. Nase, Arch. f. Laryngol., xv.

[27] The Sphenoidal Cavity and Its Relation to the Eye, Arch. Ophth., 1896.

[28] Das Verhältnis d. Nervus Opticus zu d. Keilbeinhöhle u. insbes. zu d. hintersten Siebbeinzellen, Arch. f. Laryngol., 1903, xiv.

pressure to force the hook through the ostium, especially where the opening was small and situated high in the posterior olfactory space. Often the hook would break through so suddenly that one had for the moment little control as far as its striking the superior or lateral wall was concerned. In these cases had a thin wall been present the overlying structures would only have escaped injury by the merest chance. With this thought in mind I had an instrument constructed (Fig. 1) which would obviate this difficulty. It consists of two long thin branches with a half knob on each end which when closed form a small ball. On pressing the two handles together these knobs open and lock at the desired width.

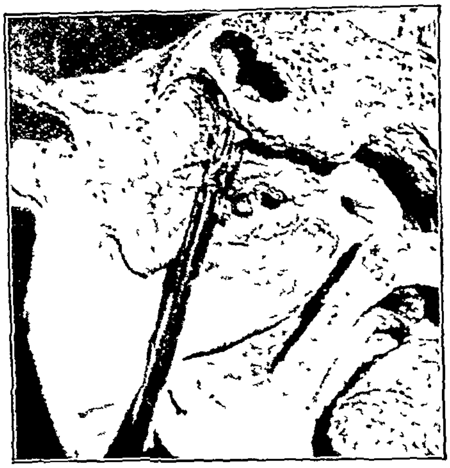
Fig. 6.—Removing the débris after the hook has been used.

This instrument, closed, is introduced into the ostium, being prevented from going through suddenly onto the superior or lateral wall[29] by a protector situated a few millimeters behind the knob, is opened by a slight pressure of the fingers and drawn out. The knobs are provided with a cutting surface behind which readily goes through the mucous membrane and thin bone. This procedure may be repeated until the ostium is considerably enlarged. When the bone is thick the operation can be finished by means of the excellent bone forceps of Hajek.[24] I have made a slight modification of this instrument (Fig. 2), having the nasal part bent to conform more with the position of the antero-inferior wall of the sinus.

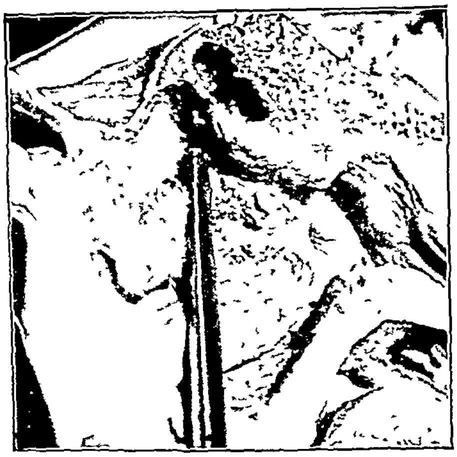
Fig. 7.—Introduction of the author's evulsor into the natural ostium of the sphenoid.

THE OPERATION.

The operation in detail which I find acceptable to all cases is the following: The lateral wall of the nose, including the septum, is thoroughly cocainized with a 20 per cent. solution, a few drops of adrenalin chlorid having been added. After anesthesia has reached the point beyond tactile sensibility the posterior half of the middle turbinate (Fig. 3) is removed by means of the scissors and cold snare (Fig. 4).

After bleeding is controlled by lightly wiping with gauze soaked in adrenalin chlorid, the superior nasal passage with the superior turbinate is exposed to view. Hajek's ethmoid hook (Fig. 5) is now employed after the method of the author,[4] and with two or three strong pulls the posterior ethmoid cells are broken through, the débris being removed with a Grünwald-Hartmann conchotome[30] or a similar instrument (Fig. 6). The sphenoidal sinus is now either exposed to view or opened completely up, depending on the anatomical construction of the part. Should there be present a spheno-ethmoidal recess, the ethmoidal portion of the sphenoid wall will remain intact; if, on the other hand, the superior turbinate forms most of the anterior sphenoidal wall, breaking it down will naturally expose the sinus. We will suppose, however, that, after removing the posterior ethmoidal cells, the anterior wall of the sphenoid has not been injured and we are able to see the ostium with pus oozing out. It is now an easy matter to introduce the evulsor[31] (Fig. 7), and with a few well-directed pulls to open the ostium 8 to 10 mm. in diameter (Fig. 8). The ostium is really never so small as it appears, because the mucous membrane, not only from the nasal side but from the interior of the sinus, joins to make more or less of a diaphragm. The bone at this point is paper thin, gradually becoming thicker toward the base and basilar process. The bent forceps of Hajek are now used (Fig. 9) and as much of the bone removed as is necessary to insure a permanent opening which, in my opinion, should reach as deep as the floor of the sinus (Fig. 10).

No structure of the nose shows greater tendency to granulate after operation than does this sinus and, after making a large opening, one would be surprised to find this opening, in the course of a few weeks, almost closed by these granulations[32]—not the sinus itself filled, but the ostium occluded. On

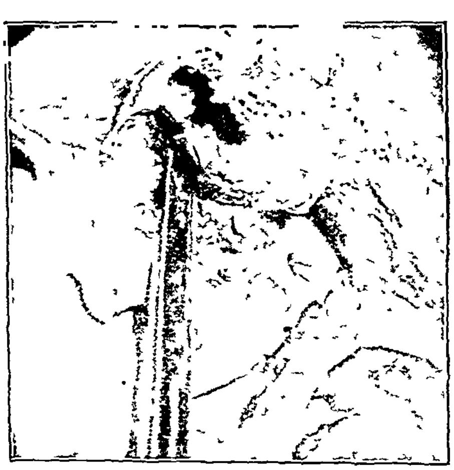
Fig. 8.—Drawing the evulsor out after opening it, thereby enlarging the opening in the anterior of the sinus.

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[29] In those cases of "shut in" empyema, where the ostium is occluded, there usually is present pulsation of that thin membranous portion of the anterior wall previously occupied by the ostium. In any case the use of the sound will demonstrate the former position of the ostium.

[30] Atlas d. Anat. d. Stirnhöhle, der vorderen Siebbeinzellen u. d. Ductus Naso frontalis, J. Bergmann, 1900.

[31] Compare, Kilian, G.: Die Probepunction d. Nasennebenhöhlen, Münch. med. Wchnschr., 1896.

[32] Schmidt, M.: Die Krankheiten d. oberen Luftwege, 1897, 2d ed.

this account the operations through the bulla, posterior cells and those making small openings are not to be recommended. The condition of the mucous membrane is frequently found to be swollen, velvety and nodulated. Under such circumstances it is better to wait two weeks and observe whether this inflammation will not subside of itself. If granulations remain at the end of this time, the floor of the sinus may be gently curetted after cocainization, but never the superior or lateral walls. Concerning the use of the curette in this sinus, authors are at variance. Hajek[4] and Onodi[15] condemn the practice, while Zarniko,[1] Schaffer,[17] Stacke,[20] Bresgen and others carry it out, but all agree that it is dangerous, particularly on the superior and lateral walls, and should be done with all gentleness and caution. I agree with Hajek, that it is, for the most part, superfluous and may be dispensed with, except in chronic cases where localized spots resist healing.[32] The bleeding which occurs is minimum and can easily be controlled.[24] Four cases have been reported in which postoperative bleeding from the anterior wall occurred.[16, 24, 33, 34] This was controlled by tamponade in all except that of Myles. His, however, required ligation of the external carotid

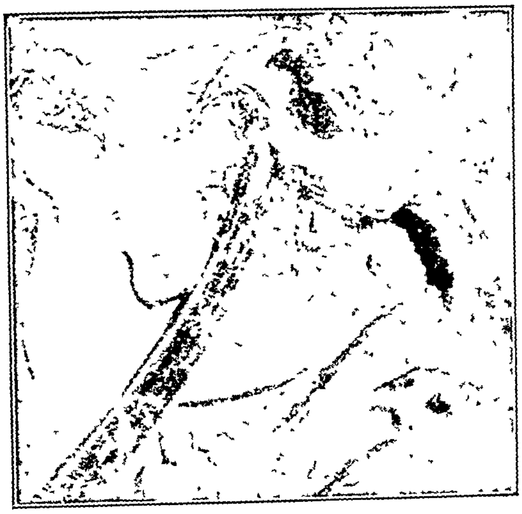
Fig. 9.—Hajek's modified forceps biting away the anterior wall piecemeal; last stage of the operation.

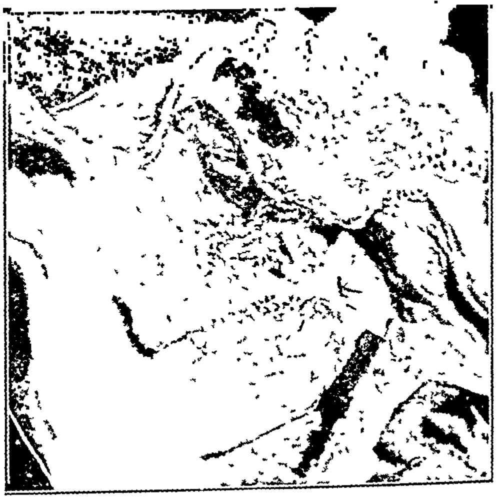
Fig 10.—Result of complete resection of the anterior sphenoidal wall, after the operation.

If, on the other hand, the resulting hemorrhage becomes copious, syringing with a 1 to 100 solution of citric acid or pressing a cotton tampon soaked with adrenalin in the sinus will control the bleeding. The disadvantage of the latter procedure is the tendency to secondary hemorrhage. As a precautionary measure in these cases a tampon of iodoform gauze prevents reactionary hemorrhage. The tampon is removed after 48 hours. This danger is, nevertheless, slight when one considers that the only artery standing in the way of being injured is the nasopalatine, running over the floor of the body of the sphenoid. Zuckerkandl states that this is the smallest branch of all the turbinal arteries.

The sinus cavity is now swabbed out with a gauze tampon soaked in hydrogen peroxid, a little thymol iodid (aristol) insufflated and a piece of cotton laid in the anterior nares.[35] Tamponing of the cavity is a personal equation with the operator. Hajek[24] rarely uses one, Schaffer[17] and others invariably follow this line of treatment; in any case only loosely packed iodoform gauze is used. The subsequent treatment[36] consists in washing out the sinus with a warm boric acid solution.[37] observing that the mucous membrane returns to normal and, above all, to prevent granulation tissue forming on the edges of the wound,[38] the object being to keep the opening permanent, thus to permit free drainage of secretion which may subsequently form.[39] To this end after ten days the edges should be lightly cauterized with chromic or trichloracetic acid, continuing every week until they are fully scarred over, which usually requires about six weeks. Edematous swelling of the mucous membrane may occur after application of the acid, but they are quite evanescent and vanish without special treatment. Complete healing usually takes place in from three to eight weeks, depending on the degree of inflammation and extent of operative interference.[40]

The advantages of this operation are:

1. The field of operation is always in sight.
2. The preliminary opening of sphenoid from within outward thereby incurs no danger to structures behind.
3. There is a permanent opening which lessens the danger of recurrence.

ABSTRACT OF DISCUSSION.

ON PAPERS OF DRS. GIBSON AND SKILLERN.

Dr. Albert H. Andrews, Chicago: I was interested in the measurements and averages given by Dr. Gibson, but as I listened I imagined a patient sitting before me with pus trickling down his posterior pharyngeal wall and perhaps some

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[33] Gleitzmann: Trans. Am. Laryngol. Assn., 1895.

[34] Myles. R. C.: Trephining and Curettage of the Sphenoidal Sinus, Profuse Secondary Hemorrhage Requiring Ligation of the External Carotid, Laryngoscope, p. 293, 1903.

[35] Compare, Cordes, H.: Zur Behandlung d Keilbeinhöhlenerkrankungen, Monatschr. f. Ohrenh., 1899, and Winkler, E.: Footnote 8.

[36] Compare, Guye, A.: Vier Fälle v. Ausräumung d. Keilbeinhöhle b. rezidivierenden Nasen Polypen, Berlin klin Wchnschr., 1902

[37] Compare, Curtis, H. H.: Who reports a case in a girl of 18, who, after a simple syringing out of this sinus, was confined to her bed for two days with most violent pain and vomiting and all the symptoms of meningitis, with the exception of the temperature, Laryngoscope, 1904, 866. Undoubtedly dehiscence of the superior wall existed in this case.

[38] After the operation the edges of the removed portion of the sinus wall are naturally bare and must become entirely covered with fibrous tissue before the secretion ceases This new scar tissue will consist of two layers, a ground layer of fibrous tissue and a superficial layer of epithelium. The fibrous layer is formed from the granulations which spring out of the bone, while the epithelial layer grows from the neighboring mucous membrane over the fibrous or granulating layer. A normal healing can only occur when these layers grow in harmony. Should the epithelial tissue grow slowly, the granulations from the bone will become too strong to be covered and coalesce, thus again closing in the sinus. As a gauze packing in the cavity stimulates these granulations, it should be dispensed with in the after-treatment.

[39] Compare, Hajek, M.: Fall v. Empyem d. Keilbeinhöhle m. bedrohlichen Stauungserscheinungen; Endonasaloperation nebst ein. Bemerk uber Diag. u Therap., Wien. med Wchnschr., 1895

[40] Compare, Holmes, E M.: Suppuration of Frontal, Ethmoid and Sphenoid Sinuses, Boston Med. and Surg. Jour., 1903, 337.

lesion of the eye, and I wondered how much good those averages would do me when I came to consider his case. Averages are all right from the anatomic standpoint, but from the clinical standpoint—when one works with the brain immediately above, and dangerous blood vessels immediately at the side, and nerves which one must let alone in close contact with the cavity—averages are of no value. It is the individual case which is to be considered. In doing some cadaver work it occurred to me that the posterior pharyngeal wall and the back wall of the sphenoid cavity form the arc of a circle, of which the anterior nasal spine forms the center. In making measurements it was observed that the distance from the nasal spine to the posterior pharyngeal wall was practically the same as to the posterior wall of the sphenoid cavity. If one can pass a probe in the direction of the sphenoid sinus as far as he can pass it directly backward, he must of necessity be in the sphenoid cavity and no place else. It seems to me this is a better rule than any other measurements can be.

While the curved forceps shown by Dr. Skillern has the advantage of allowing one to cut downward a little more, it interferes with the turning of the forceps to one side, as one must do to enlarge the opening laterally, as one can not well turn a curved forceps sidewise in the nose. An anatomic arrangement which must be borne in mind in cutting away the anterior wall is this: The anterior wall close to the septum is very thick and strong, while on one side a little out, one-third or one-fourth of an inch, it becomes very thin, as suggested, sometimes only membranous. These cavities should be explored very much more frequently than they are. By using a probe with a bend it can be done in the majority of cases without the necessity of removing the middle turbinate or resorting to any other surgical procedure, and it has happened to some of us to find a great many more cases of sphenoid disease since we have made the exploration of the sphenoid a part of our routine examination.

Dr. Ross H. Skillern, Philadelphia: In answer to Dr. Andrews, the forceps can easily be turned when in position, and I think can be entirely rotated while in the nose. One is thus enabled to bite in any direction. The curve is not sufficient to interfere in any way with mobility.

ALVEOLITIS OR SOME PATHOLOGIC CONDITIONS ARISING FROM INEFFICIENT CARE OF THE MOUTH.*

M. H. FLETCHER, D.D.S., M.D., M.S.
CINCINNATI.

Civilization brings with it the necessity of conscious intelligent care of the body, in order that good health may be enjoyed for the allotted three score years and ten. This is particularly true in case of the teeth.

I believe it possible, by the proper selection of prepared foods, to live a moderately healthy life without teeth, yet to live under such conditions could hardly be called enjoying good health. To have good teeth and healthy gums is one of the first requisites of perfect health. The belief that everybody can secure this condition, even by proper care, may be utopian, but this ideal can be nearly attained by most persons. Not only this, but a large percentage of diseased teeth and gums can be restored to comfort and usefulness by proper treatment and continual cleanliness. If every surface of every tooth could be kept perfectly clean one would have neither decayed teeth nor diseased gums. It is rare to see a mouth as clean as it is practicable for one to be kept, yet much time, money and energy are spent for luxuries and fads, and much is also paid to doctors and dentists for the repair of ills that could be prevented by conscious, intelligent care.

To take no care of the teeth, or inefficient care, seems to be almost a universal habit. One patient put it very nicely when she said: "I find I have been cleaning my conscience all these years instead of my teeth."

Among the most prevalent diseases, as well as the most surely preventable, is that which attacks the alveolar process, resulting in its necrosis and the loss of the teeth. This disease is known by several names, but commonly by that of pyorrhea alveolaris. In my opinion it is almost wholly brought about by calcareous deposits which can be kept off by the patient.

NOMENCLATURE.

The names by which the disease is and has been known are serving their purpose, but for simplicity and clearness the usage in other branches of surgery and medicine will be adopted. That is, the name of the organ or part involved will form the foundation or generic name, the nature of the disease being indicated by a suffix, and the stage or condition by a descriptive adjective. Under the name "gingivitis," inflammation of the gums follows the same rule.

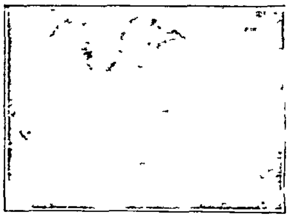

Fig. 2.—First lower molar lost from alveolitis. Second is beyond recovery. Third has recovered.

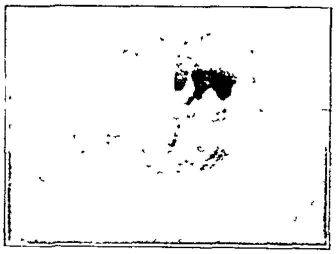

Fig. 4.—Lower first and second molars. The first molar and bicuspid have been curretted, the second molar has not. Picture taken three months after treatment. Typical of many cases.

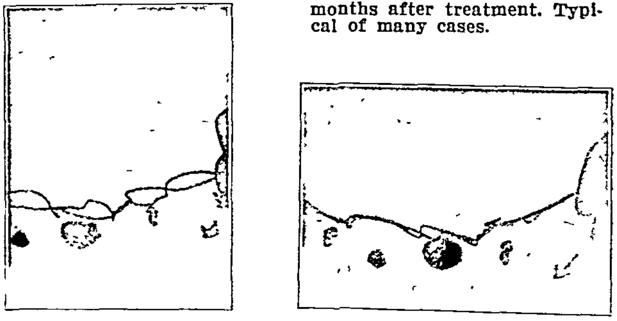

Fig. 3—Superior incisors and canine after curetting. With wire splints to sustain them until recovery.

The alveolar process being the part primarily involved in the disease under special discussion, the term "alveolitis" will be used in this paper in the sense above indicated, and the different stages of the disease distinguished as acute, chronic, suppurative and necrotic alveolitis. The adjectives "tuberculous," "syphilitic," "pyemic," etc., are also usable under this plan, and each ascribes a definite pathologic characteristic to the disease whose name it modifies.

Riggs' disease is a better term than pyorrhea alveolaris, since the latter name describes only the suppurative stage, and does not permit of use to describe other stages without producing a paradox or a contradiction. Such terms as "Bright's disease" and "Graves' disease" are, however, being eliminated from general medicine, and purely descriptive terms, formed on the principles indicated above, are being substituted.

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* Read in the Section on Stomatology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

* Owing to lack of space, the article is here abbreviated by the omission of parts of text and illustrations. The complete article appears in the author's reprints.

The term "interstitial gingivitis" is subject to the criticism that it implies that the soft tissues are the ones primarily involved by the inflammation, whereas in this disease the bone seems to control the health or disease of the soft tissues overlying it. Subsequent to the initial lesion in alveolitis, the gums seem to have little more to do with the disease than the skin does in cases of underlying bone disease.

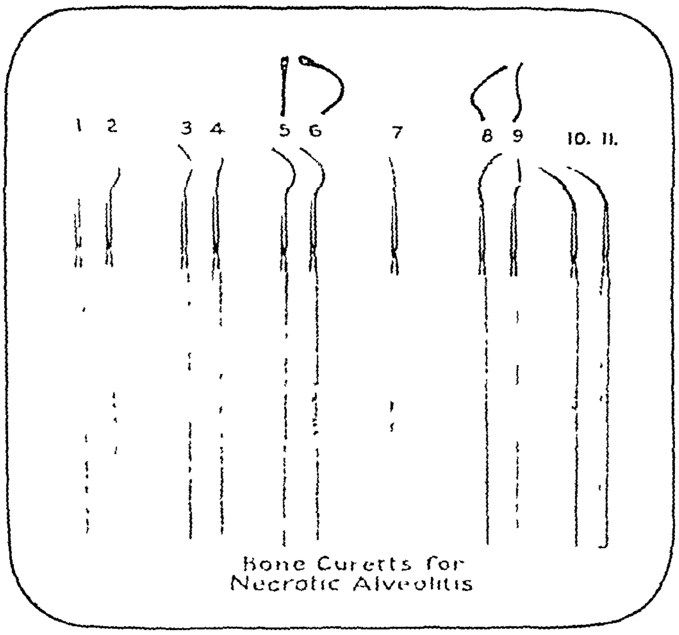

Fig. 6.—Bone curettes for removing dead and diseased tissue about the teeth and in deep pockets. The longest ones will reach beyond the apices of the roots.

PATHOLOGY.

Alveolitis in its progress includes all the processes known to other surgical diseases of bone, viz., acute, chronic, suppurative and necrotic stages. In my opinion, the initial, exciting cause, in at least nine-tenths of the cases, is the formation of calcareous deposits about the necks of the teeth. The tartar being adherent, Nature can not remove it, and the inflammation becomes more extended and violent, resulting in raw tissue and open blood vessels at the point of contact with the tartar: this naturally results in the formation of pus, in small quantities at first. The surrounding of a foreign body by pus or the floating of a foreign body in pus until the surface is reached and an opening made for its discharge, is a familiar process in the case of a thorn or splinter in the flesh.

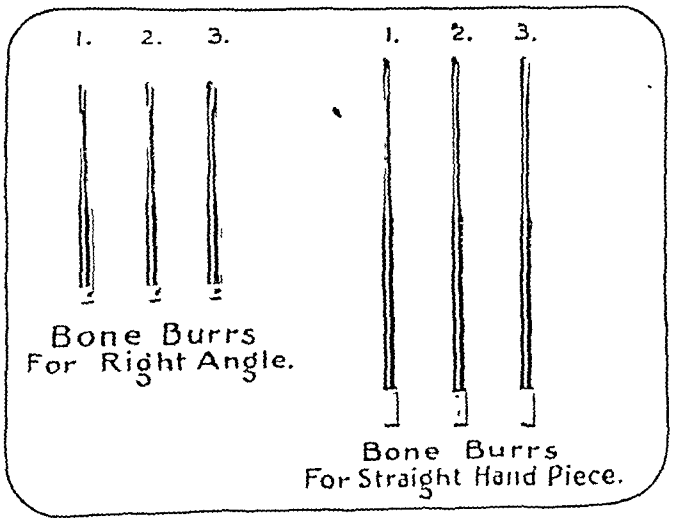

Fig. 7.—Alveolitis burs for both straight and right-angle hand pieces, for the same purpose as the curettes. The burs work more rapidly and thoroughly and are usable in a majority of cases.

Tartar against the gum margin is a foreign body, and Nature endeavors to dispose of it just as she would the splinter. The tartar, being fixed, only continues the irritation, with pus as a continual result. The thin edges of the alveolar process, being continually attacked by pus or osteoclasts, soon begin to melt away, and the membranes covering the bone and roots of the teeth disappear with it. So long as the irritation remains, this process continues, its rapidity varying with environment and individual. Thus it is seen that Nature in this particular malady, if unassisted, in her attack on her enemy, the calcareous deposits, destroys the tissue about teeth until the tooth with its attached tartar is extruded, thus finally accomplishing what she started to do (Fig. 3).

The acute or incipient stage of alveolitis may continue for a lifetime, with no appreciable inconvenience or pain to the patient, the progress often being so slow that there is nothing to reveal the presence of the disease aside from the receding of the tissue about the necks and roots of the teeth. But infection may take place about one or more teeth at any time, producing periostitis, either inside or outside of the socket, proceeding from one stage to another, ending in necrosis either of limited or extended degree.

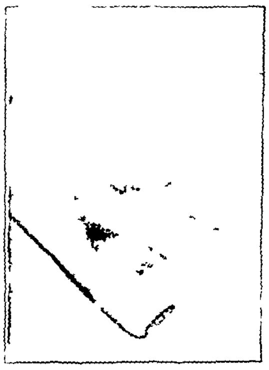

Fig. 5.—Superior molars and bicuspids when antrum is involved. The wire passes through the opening into antrum.

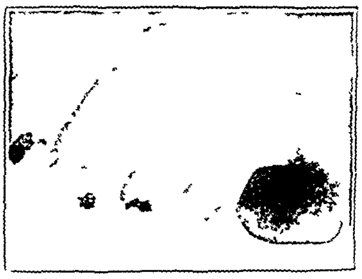

Fig. 8.—The case reported in which disease from superior lateral had perforated to floor of the nose.

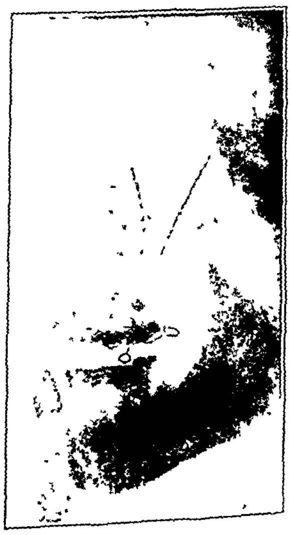

Fig. 9.—Showing a typical case in which necrotic alveolitis has perforated the antrum above first molar. The wires show the opening into the antrum to be about the diameter of the crown of the tooth. Typical of thirteen cases.

ETIOLOGY.

Abundant evidence can be presented to maintain the position that, without local irritation, destructive diseases of the soft and hard tissues about the teeth and alveolar process would be confined to those due to traumatisms, thrombosis, nutritional changes and bacterial stomatitis, with now and then an infection from the circulation, as in other tissues; but these affections would then be attributed to their special causes and treated accordingly.

The most frequent point of attack for alveolitis is in the septums between the teeth, where tartar is not disturbed by lips, tongue, food or brush; but any place about the necks of the teeth, where tartar is undisturbed, is apt to be the point of attack (Fig. 3).

The opportunity for the entrance of infection to the alveolar process is almost unlimited, for calcareous deposits about the necks of the teeth are found in every adult human mouth and in the mouths of most children.

The quantity of tartar and the irritability of the soft tissues in its presence varies in different individuals, and with each individual according to his power at different times to resist disease after its onset.

Autointoxication or lack of resisting power, however caused, makes one more susceptible to other diseases as well as to this; but a low state of health could hardly be the sole cause of an infectious disease. The microbes of infection are ever present in great abundance, Miller having isolated more than one hundred different kinds of bacteria from the juices and deposits in the mouth. So, when the gums and periosteal membrane are sore and bleeding from the impingement of tartar, bands, the wedging of food, or any other irritant, infection may readily start and the disease follow. Lesions of the gums about the teeth are so universal that the wonder is, not that there are so many diseased mouths, but that there are not more.

A lesion of the gums, because of immediate proximity to the bone, seems pre-eminently a suitable place for the beginning of any of the surgical infections of bone. The infections to be considered in alveolitis are those that produce osteomyelitis, caries or tuberculosis of bone, gummata or syphilitic lesions, and actinomycosis. The ultimate result in each one of these infections is dead bone.

Necrosis from lead, mercury, phosphorus and all other chemical causes, are not to be considered here, since their etiology is apparent.

The diagnosis, then, in any single case, lies between an infection by pus-producing germs, such as accompany osteomyelitis; tuberculous germs, which produce caries; syphilitic germs, which produce gummata; and actinomycosis. The last named produces "lumpy jaw" in cattle, and is not frequent in man, especially in this country. It is not uncommon, however, in countries where camels are used as domestic animals, and is confined largely to these countries. It is sometimes seen in cattle in the United States, and now and then in man in cattle districts; but in this paper it hardly need be considered in the light of a factor in alveolitis.

Then, in consideration of the above, we have three kinds of bacteria to consider as the most probable sources of infection, namely, pyogenic, tuberculous and syphilitic.

SYPHILIS.

The consensus of opinion seems to be that syphilitic infections are far less numerous than either pyogenic or tubercular infections. In my opinion this is especially true in regard to the alveolar process, although the mouth seems particularly favorable to other lesions of syphilis. In patients who seem to be syphilitic, recovery is much slower, the infected tissue being more sensitive, and persisting in showing inflammation long after other patients with other infections have recovered. The characteristic thickening of the periosteum in the gummata of syphilis can be felt over the diseased bone in the neighborhood of the apices of the teeth, either on the buccal surface or inner surface, or both. Gummata in the periosteum must be distinguished from hardened lumps at the apex of dead teeth or exostosis of bone. Gummata usually appear, however, on the septum of bone between the roots rather than over them. This is because syphilitic bone is more apt to be in the cancellous portion of the body or between the roots. These conditions are rare, however, in comparison with pyogenic and tuberculous infection. Local treatment is practically the same in all infections, excepting that it must be continued longer in syphilis. Syphilitic infection may be either congenital or acquired. The congenital form appears more frequently in the bones of children, and particularly in the long bones, but the acquired form frequently shows in the bones of the head and face, the alveolar process and maxillæ being no exception. With our present incomplete knowledge, however, syphilitic alveolitis is not easy to distinguish from tuberculous alveolitis.

OSTEOMYELITIS.

In considering osteomyelitis, which is pyogenic, it is to be remembered that in a typical case the seat of trouble is in the marrow of one of the long bones, oftenest the thigh bone of a child or youth, although it may occur in the periosteum, in the form of a felon, for instance. It is considered that the infection comes from the blood and oftenest finds a lesion or point of least resistance in the marrow of some bone and begins its work there. The bony walls being unyielding, the patient's suffering is intense, and the spread of the infection to the surrounding marrow and bone is rapid. The destruction and pain continue to increase as long as there is no exit for the pus and other products of inflammation. Early interference by the surgeon is demanded here, for if time must elapse for the pus to burrow its way to the surface through bone and flesh, many days at least, and probably many weeks must pass, during which time much tissue is destroyed and untold suffering endured.

The above description, if somewhat modified, applies to an abscess at the apex of some dead tooth, or an infection under the gum tissues, either from the blood or by infection from a lesion at the alveolar border. Very acute and painful infections about the alveolar process imply that the pus is confined at some depth below the margin of the gums. If the infection were nearer the gum margin, either in the socket or on the alveolar process, the discharge would either not be confined or would make its exit at an early stage of the disease, giving comparatively little pain in either case. The infection remaining, however, continues its destructive work, and a chronic stage of suppurative alveolitis or true pyorrhea alveolaris is the result.

If not interfered with, this condition may continue indefinitely, now and then assuming an acute stage when new foci become infected, quieting down again when the sinus is opened to the surface. But each time this occurs there is loss of more bone in the alveolar process or in the deeper cancellous portion, often extending into the body of the jaw, and many times into the antrum. This destruction continues slowly or rapidly, according to the acuteness or chronic activity of the disease, until the tooth or teeth are lost. When the tooth is out, if the infection is not mixed with other germs, such as tuberculous or syphilitic, healing becomes prompt and complete in the normal time for the building of bone structure, that is, in two or three months. Under proper surgical treatment, however, healing can be made just as prompt and complete, and the teeth retained and made useful, provided the dead and infected bone be removed before the foundations of the tooth are too greatly destroyed (Fig. 4).

TUBERCULOSIS.

In considering tuberculous infection as a cause, my experience makes me believe that alveolitis in all its stages, after its initial lesion, is more largely due to this infection than to any other.

Descriptions, by two of our best authors and surgeons, of this disease in other bones than the alveolar process, will better serve than my own, as a description of tuberculous alveolitis and its ravages. The action of tubercle bacilli on bone, as here described, is particularly applicable to carious alveolitis.

Park[1] goes into minutiæ in regard to the "infectious granuloma" of Virchow, which plays so large a part in the slow destructive process in caries of bone. This granulation tissue is the effort on the part of Nature to repair the damage done by tuberculous or other infection, but the granules also become the seat of infection and serve as a further means of increasing the progress of the disease, especially that of tuberculous type. Carious necrosis into the alveolar process and jaw bones seems exactly the same in character and extent as this infection in other bones, and in my hands has yielded to the same character of treatment that has proved successful on other bones (Fig. 4).

Although many microscropic tests have been made. no satisfactory results have been obtained. Probably none can be obtained until the work is taken up under proper laboratory environment for both culture and microscopic tests; and even then the work might be uncertain, as Miller has shown[2] in his endeavors to find a special bacterium of this disease. He sums up his work as follows:

> From these experiments, we might conclude that, if there is a specific bacterium of pyorrhea alveolaris, it does not readily grow on gelatin, a result which is of value in so far as it indicates that in further experiments on this subject, media should be employed which admit of being kept at the temperature of the mouth. *At the same time the thought suggests itself that possibly the bacterium of pyorrhea alveolaris, like so many mouth bacteria, is cultivable on none of the artificial nutrient media, which would of course render all experimenting useless.*

TREATMENT.

In the first place, in extensive cases, the tissues will need to be cocainized, a 5 to 10 per cent. solution being injected into the pockets. If the tissues are very sensitive, a weaker solution can be injected into the gums, the same as when teeth are extracted. The periosteum is very sensitive, but bone is not so, and dead bone not at all so. The use of cocain must be determined by the conditions. I use it as sparingly as possible, for the reason that if enough is used to produce anesthesia it usually produces a sleepless, disagreeable effect, if it does not prostrate the patient for a day or two. Usually the cocain can be postponed until the point of curetting and burring is reached.

Next, all calcareous deposits must be removed. There are hundreds of instruments made for this purpose, each operator having his own preference in instruments and his own methods of use. But the deposits must be most thoroughly removed and the teeth and roots polished with an orange stick and pumice, floss, discs or brush, or whatever the operator can best use to restore the teeth to a smoothness equal to that they originally had.

Experience shows that scratches and grooves on the roots from instruments are nearly always present. although they should not be. These scratches, when under the margin of the gums, do not cause the roots to decay nor prevent the tissues from becoming healthy; but calcareous deposits remaining, however slight in amount, will continue to irritate and increase, resulting in a repetition of the various stages of the disease, namely, initial lesion, increased inflammation, infection and destruction of bone. One of the most important parts of the treatment consists in teaching the patient how to keep the teeth free from calcareous deposits. If tartar is not allowed to form about the gum, it will not form below, and the disease is prevented; otherwise it is likely to return (Fig. 1).

After removal of deposits comes the removal of necrosed bone. No repair is ever complete unless this is done. It is oftenest done, however, by Nature herself *without intentional aid from the doctor.*

Now. it would seem the rational thing for the physician to seek out the points of attack, and by conscious effort to assist Nature by tearing down and removing her enemy's citadel, the infected and dead bone, be it ever so small an amount, thereby reducing the enemy's forces and stimulating Nature to a renewed and stronger effort, and thus not only shortening the time of repair, but making it more sure. In this way recovery can be induced in many cases which would otherwise end unfavorably. The progress of tuberculous infection in bone is so slow that many patients, even if not entirely cured, may be much relieved, in that the disease becomes quiescent, and the affected teeth, which otherwise would be lost, remain useful for years.

The conscious effort referred to consists in the use of delicate bone curettes and suitably shaped burs for removing dead bone from about the necks and roots of affected teeth. Examination should first be made about the neck of every tooth with a delicate probe; one of the bone curettes is usually good for this purpose, but a more delicate instrument, like a smooth broach, is often necessary. The sense of touch readily reveals the presence of bone not covered by soft tissue. When such is present there is very little if any sensitiveness, whereas if gums or periosteum still cover the bone, the patient quickly responds to the pain and the touch reveals the difference between live and dead bone. No matter what one may believe as to the causes of the disease, the fact remains that, in the mildest cases of alveolitis in its second or chronic stage, there is always more or less death of the bone about the teeth, and the dead and diseased tissue should be removed in order to give Nature the most assistance.

The third or necrotic stage is that in which the alveolar process is more deeply involved, the necrosis usually progressing along the root in one tract, until near the apex, then gradually encircling the root, also continuing its ravages into the maxilla. In the upper jaw the infection often goes into the antrum, now and then into the floor of the nose. and many times destroys large sections of the cancellous portion of the superior *maxilla* (Figs. 5 and 9).

In the treatment of these cases, packing is not called for except in instances of extensive removal of tissue, such as curetting the antrum or the removal of considerable portions of the body of the bone.

If systemic treatment is demanded it should be directed toward the restoration of normal health by such means as the elimination from the diet of foods which do not become wholly digested and assimilated. and the copious drinking of pure water. If the local trouble is complicated with other diseases of moment, the general practitioner or specialist should take charge of these.

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[1] Treatise on Surgery: Tuberculosis, I, 160.

[2] "Microorganisms of Human Mouth." p. 329.

TIC DOULOUREUX.

Besides these deep-seated extensive cases, there is another class which calls for knowledge of local pathology and great keenness of diagnosis. They are nonsuppurative and attended by more or less neuralgic pain, sometimes a matter of small discomfort, again reaching the magnitude of tic douloureux. They usually occur about a perfectly good tooth, and there is no evidence of inflammation, either on inspection or on percussion. The one symptom which calls attention to them is entirely subjective; that is, the patient complains of discomfort or pain in the neighborhood. The tooth affected is usually next to one more deeply affected or next to the space where one has been lost. With a smooth broachlike probe inserted close to the tooth some place will be found which is not sensitive, usually approximating the space where the adjoining tooth was, or the tooth more deeply affected with the disease. The bone is found nude of periosteum and eburnated, that is, abnormally hard. This hardened condition is easily detected by the touch; the bone is very hard to cut even with a bur, and is not sensitive. The treatment consists in the removal of the eburnated bone with a curette or bur; the bur is the better.

Disease of the periosteum, wherever found, is usually accompanied by neuralgic pains. In view of this fact, I have been led to believe[3] that tic douloureux might be due to a disease of the periosteum, starting as above described, and continuing even after all the teeth have been lost.

Subsequent experience has very much strengthened my belief in this theory, and I believe it lies with the stomatologist to work out this hypothesis and find the proper treatment for this most distressing malady. At the present time I would call this variety periosteal alveolitis from tubercular infection, or periosteal caries.

DIAGNOSIS.

The diagnosis of chronic cases of alveolitis needs suitable instruments, sensitive touch and great care; and the treatment, in addition to this, requires a perfect knowledge of the anatomy of the structures and their pathology.

To operate in any of these cases is surgery and not dentistry, so that the stomatologist also needs to be skilled in operative surgery to a degree which gives him suitable knowledge and confidence in himself to handle a patient undergoing the removal of part of the alveolar process either above or below. He must also be capable of opening and properly treating the antrum of Highmore, and of knowing if this cavity is diseased beyond its connection with the teeth, or whether it is diseased at all or not, and of handling a patient under collapse, either from shock or local anesthetic. Further, the operator should be so in touch with his patient and the extent of the operation as to know whether the operation should be performed under local or general anesthesia, and whether it should all be done at once or at intervals of a few days or weeks; for general and systemic complications from secondary and acute infection may occur at any time.

These features will present themselves more strongly when a history of some of the cases is given and the radiographs are shown.

INSTRUMENTS.

Under the impetus, first, of an effort to be thorough, then of surprise at the prevalent ravages of the disease, then of a desire to learn its full extent and how to treat it, I found myself bewildered at times. Consequently, I began to invent instruments which would reach the extended tracts of necrosis. These instruments are here presented for criticism (Figs. 6 and 7).

The curettes, or hand instruments (Fig. 6), are all of the hoe and hatchet type, varying only in size of blade and length and shape of shank. The attempt is made by these variations to reach any extended tract of necrosis. The necrosed portions are usually friable—that is, in the state of osteoporosis—and can easily be cut away with the curettes; but certain phases of the disease and certain kinds of infection often result in osteosclerosis; that is, hardened or eburnated bone, on which the curettes make little headway. For cutting these hardened bones I have made some extra long bone-cutting burs (Fig. 7), both for the straight and right-angle hand-pieces. The contra-angle seems to be more suited to the work, however, than the right angle. The burs for the contra-angle will reach all cases in the lower jaw and most of the upper, but a bur two and one-half to three inches long—that is, one long enough to reach to and into the antrum—is often necessary for the upper jaw.

Experience has taught me that the burs must be of the fissure-bur type, with rounded ends, and small enough to cut away the septums of bone without injury to the roots. Often this can not be done with any bur, since it would necessarily be so delicate that it would break very easily, an accident which occurs quite frequently. The same thing also occurs with the curettes. The alveolitis burs are made without the usual shoulder near the head in order to prevent them from breaking so easily. In many instances the roots of teeth are so close to those adjoining that no instrument sufficiently strong can be inserted into the space.

OPERATIONS.

On account of proximity to the floor of the nose, the antrum and the roof of the mouth, necrotic and suppurative alveolitis may be more serious in the upper than in the lower jaw, since all these cavities may be involved singly or at once. It has fallen to my lot to be obliged to remove much of the alveolar process and to excavate more or less extensively into the cancellous bone of the superior maxillary.

My records show that in the past twenty-two months I have treated 112 patients with necrotic and suppurative alveolitis. This does not include patients in whom moderate amounts of tartar have been removed and the teeth polished. Out of these 112 patients, in 13 the antrum was perforated; 17 had acute osteomyelitis; 8 a considerable portion of the alveolus and bone from the maxilla was removed; 5 had symptoms approaching tic douloureux; and all required more or less curetting of the alveolar process and maxilla. Twenty-four had one or more teeth that could not be saved. In one of the antrum cases the disease was caused by intranasal disorder and has been troublesome for five years. Two patients went to a nose specialist, and I do not know their later condition. In the other ten the conditions have been cleared up, as shown by transillumination, and the patients have been discharged, so far as antrum trouble is concerned.

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[3] Fletcher, M. H.: Periosteal Caries, THE JOURNAL A. M. A., Sept. 2, 1899, xxxiii, 555.

Affections of the antrum caused by the teeth are much more amenable to treatment than when the disease is from intranasal disorder.

In one instance, in the lower jaw, it was necessary to remove all the teeth and alveolar process, back of the canine on one side, curetting extensively into the body of the bone. In another the patient was operated on by a general surgeon and much of the body of the lower jaw removed on one side, in addition to all the alveolar process from the canine back. The patient was afterward sent to me to have the upper teeth and jaw treated. I found extensive necrosis running back into the cancellous bone from above the superior lateral and central. The harder plates of bone under the floor of the nose and the antrum had not been perforated, but their shapes could easily be felt with the instrument. This patient has been under treatment for six months and is nearly well.

By proper handling, these patients can be conservatively treated and the structures often induced to heal without the radical operation of extended removal of maxillary substance, as is now so frequently done in the hands of the general surgeon.

The laws of regeneration do not permit of complete healing of bone tissue inside of several weeks at the shortest, and often require several months, so that patience and careful watching are necessary on the part of both patient and doctor. One patient now on my list for nearly a year, who would not submit to a radical removal of the cancellous bone in the superior maxillary, has submitted to a small amount of removal from time to time and is gradually recovering under two dressing treatments a week. This case, however, was the result of a dental abscess arising at the apex of the superior lateral which had discharged into the floor of the nose (Fig. 8).

The extensive ravages of alveolitis must be seen to be fully understood, and it is my desire that stomatologists may take up this task and unitedly work out the complete history of the disease, together with the most approved methods and instruments for its successful treatment.

REGENERATION.

At the present time, the greatest uncertainty about alveolitis is in regard to the origin of the cause or the kinds of infection producing it. The symptoms are nearly the same in all instances, and the treatment is practically the same in all cases, namely, the removal of deposits and of any necrosed or dying tissue, which constitute the hindrances in Nature's path to recovery.

After curetting and burring have been done, the cavities should be washed out with a warm antiseptic solution to remove the cuttings. The blood should be allowed to clot in the cavity. My plan is to be careful not to disturb the blood clot so long as it remains aseptic. If there is a tendency for pus to form, the wound should be washed out every one, two or three days, according to conditions, and, if pus continues after ten days, a second, third or even more attempts must be made to remove the offending material.

Aseptic blood clot is Nature's "false work" or scaffolding on and into which she builds all new tissues, no matter of what kind. The less the healthy clot is disturbed, the more prompt is the repair. In the blood clot is formed the granulation tissue of repair, which is the second stage of the building of new tissues. Any disturbance to these granules is also a hindrance to repair; hence packing is seldom called for.

Following the formation of granulation tissue is its gradual change into tissue of the kind from which the granules sprang. This process continues until the wound is healed. The hindrances to this normal process are foreign bodies, dead or dying tissue, and the presence and increase of bacteria. Nevertheless there is a continuous and never-ceasing effort to extrude or to tear down and carry away any foreign body.

This new or granular tissue thus endeavoring to envelop the diseased or dead tissue is called the involucrum. Dead tissue thus completely involved is attacked from every point, and often an enemy thus attacked can be destroyed, whereas, if only partly surrounded, it would hold its ground.

This process is one of the most common things to be seen in the human mouth, especially in patients who have been or are being treated for alveolitis. When the crown of a tooth has disappeared, the involucrum begins to grow over the edges of the root, and at times a portion of the root may be completely enveloped and finally become absorbed. Inflamed gums, from irritation of tartar or other causes, constitute an attempt to involve and destroy the enemy and replace lost tissue.

And now to the point of the above explanation. What really happens in a large number of cases treated for suppurating or necrotic alveolitis is that an effort is made by the doctor to remove the deposits. Some doctors may try to remove dead bone. In any event, the tissues are wounded in the effort, and all or most of the deposits and dead bone removed and the limiting zone or membrane at least partly broken up. Thus Nature is stimulated to a new and vigorous effort to repair the damage done. The involucrum grows up and around the root, enclosing more securely any deposit that may have been left. Of as much importance, however, is any necrosed or infected bone which the involucrum may enclose, for it is likely to increase in extent and, as stated, many times involves the deeper portions of the maxilla, often reaching the antrum (Fig. 9).

If I have suggested anything new or valuable, I believe it is the necessity of either curetting or burring about all teeth where the disease is found, and of more thorough removal, if the disease is deep seated—that is, of consciously assisting Nature to do what she is always trying to do. These deeper-seated sequestra, however, do not always prevent the involucrum from closing tightly about the neck and roots of the teeth, especially if the involucrum is composed of bone tissue. In such a case, at some point about the tooth, dead bone may be found or a place which can be penetrated to dead bone or to a cavity above. This, however, can be done only with a delicate but sufficiently stiff probe such as I will show. A small portion of necrosed bone may be absorbed and complete regeneration finally take place after Nature has been stimulated to a new effort, but the approved surgical treatment is to remove all dead or dying bone if it be practicable.

It must be borne in mind that the process of regeneration of bone in these cases is accompanied by acute inflammation of the surrounding tissue. The new-forming bone is soft and yielding; the callus does not show much tendency to harden for three or four weeks, and does not become ossified for six or more weeks. Often, therefore, after the removal of bone about the roots, the teeth are looser than ever, and at times need splinting with wires to other and firmer teeth, the splint remaining until ossification is completed, when the teeth will become firm and useful, provided there remained in the beginning enough live bone, periosteum, and endosteum for the purposes of regeneration.

CONCLUSION.

In conclusion, I apologize for the length of this paper. To me, however, every portion of the subject is fraught with so much interest and clinical experience that it has been difficult to select that which seemed most necessary in presenting the subject.

The radiographs will somewhat support my practical experience, but only your own experience, past and future, can reveal to you the great prevalence and ravages of this disease.

11 East Seventh Street.

ABSTRACT OF DISCUSSION.

DR. EUGENE S. TALBOT, Chicago: Dr. Fletcher says that a large percentage of diseases of the alveolar process are of local origin. Here I disagree with him. He says, however, that "to have good teeth and healthy gums is one of the first requisites of perfect health." No one will dispute this statement. Perfect health, however, means health of the body, generally, as well as the mouth. Dr. Fletcher says that "the term interstitial gingivitis is subject to criticism since it implies inflammation of the soft tissues as being the primary tissues involved." The constitutional changes which cause this disease nearly always take place in the arteries, as demonstrated in my work on "Interstitial Gingivitis or So-called Pyorrhea Alveolaris," and, therefore, the bone is liable to be the first involved. The term "interstitial gingivitis" was given for the very reason that the disease was deep-seated; the word "interstitial" means between tissues including both hard and soft. From Dr. Fletcher's reasoning the word "alveolitis" is objectionable since it does not refer to the gums and soft parts which are always first involved when the disease is of local origin, as he asserts it is, in a large percentage of cases. The term "pyorrhea alveolaris" should be used only when pus is present. Dr. Fletcher ignores the autointoxications of pregnancy and those caused by drugs and diseases. Certainly arteriosclerosis and endarteritis obliterans, which are present in almost every case, are not local irritations. He says that a low state of health could hardly be the cause of an infectious disease. Researches have shown that the only infection which takes place in this disease is pus infection. The inflammatory process precedes this stage. Dr. Fletcher describes the effects of syphilis, tuberculosis and actinomycosis as infections and classes all pathologic processes as infection. These diseases may or may not cause infection of and destruction of bone, etc. Very few patients come to me for treatment suffering from these infections. Dr. Fletcher speaks about necrosis and necrotic tissue; asserts that tartar is the great cause; that "infection of the alveolar process is almost unlimited;" that "calcareous deposit is found in the mouth of every adult human and of most children." If it be due to tartar, how is the disease accounted for in animals which do not have tartar but which do have deposits, the result of the disease? My studies on animals and human beings have demonstrated that this disease (in the constitutional and large majority of cases) is the result of irritation in the blood, which sets up absorption of bone (not pathologic in the sense of necrotic), but precisely such absorption as results in the alveolar process when a tooth is extracted or in tooth movement. Dr. Fletcher forgets that the alveolar process is wholly unlike any other in the body, being a doubly transitory structure. Its end is annihilation. It is natural for this bone to be absorbed: not so with other bones. The alveolar process is only waiting for some slight irritation (not sufficiently active to cause necrosis) to set up absorption. This irritation is caused by changes in the blood stream (autointoxication and acidosis). Syphilis, tuberculosis, actinomycosis and all diseases will cause such changes in the blood, and always act on the alveolar process. Dr. Fletcher brings forth no researches in proof of the correctness of his premises. I still believe that there are local causes, but a large proportion are constitutional. It is my experience that regeneration of the alveolar process, if it does take place, is a process similar to that of bone absorption. If acute inflammation sets in the formation of osteoclasts and osteoblasts, halisteresis, and Volkmann's perforating canal absorption can not take place.

DR. G. V. I. BROWN, Milwaukee: When Dr. Fletcher uses the termination "itis," without modification, then he lays himself open to the necessity of accepting the well-known etiologic factors that come into play with reference to all inflammations. He would lead us to infer that he believes the questions of constitutional characters are very slight; but again he tells us that he does consider them important when he says that the cause is entirely local. His paper speaks of "autointoxication, or greater susceptibility to disease." The latter is not autointoxication, but may be a result of it. Do you believe for a moment that by any kind of scraping you could prevent the dark line appearing at the gingival border, or the effect on the structures of excessive mercury administration? Would scurvy do the same thing? I have shown several times a series of slides of an individual who had what under Dr. Fletcher's term would be alveolitis; of course he had alveolitis, but every organ in the man's body—heart, kidneys, liver, spleen—showed the same round-celled infiltration, the same destructive process going on as in the alveolar process, but worse in the alveolar process than elsewhere, because he had alveolitis the result of leukemia, which is a constitutional disease. I thought that everybody was willing to admit that where inflammation, especially of such a character as this exists, there are both predisposing and exciting etiologic factors. Dr. Fletcher gets good results from his treatment, and I am perfectly willing to accept his surgical principles and methods of treatment, because I know he knows what he is talking about. There is no difference between us except in the matter of trying to make it appear that this one factor, calcic deposits, so greatly overshadows the constitutional and all other generally recognized factors.

DR. STEWART L. MCCURDY, Pittsburg: The terms "caries" and "necrosis" denote incidents in the history of disease, and not diseases themselves, if we take into consideration the etiologic factors that produce disease. Caries of any tissue, hard or soft, is the result of some local or constitutional disease. Necrosis, likewise, implies a history of constitutional disease. We must go back to the etiologic factors that produce the disease rather than consider these as distinct diseases. From Keen's new work on surgery I find that primarily considered tuberculosis of the alveolar process is rather rare compared to syphilis and other diseases of this structure. I would like to apply the word "hereditary" rather than "congenital" to these diseases. Syphilis is rarely congenital. The syphilitic condition exists at the time of birth, but not the disease itself. "Congenital" means existing at birth, and "hereditary" means that the disease develops at any time in after-life, but that it was latent at the time of birth. The majority of these conditions develop later. I made the estimate in 1897 that 50 per cent. of all bone and joint diseases of children had syphilitic ancestry and this view was so radical at that time that the paper was not published; yet since that time many more radical papers than mine have been published. Most practitioners of medicine and surgery had not seen as many of those general syphilitic diseases as those of us who practice among railroaders, mill-workers and the laboring classes. Men who are in sky-scrapers do not see the cases that men see who are treating this class of cases.

DR. VIDA A. LATHAM, Chicago: The whole of this discussion goes back to the first principles. What is pyorrhea alveolaris, Riggs' disease, or interstitial gingivitis? Let us have a pathologic classification: in the lack of it lies our trouble! Dr. Fletcher is misunderstood by some people, Dr. Talbot by others, and I think that Riggs himself was misconstrued. The condition termed alveolitis exists as a later period. The disease starts with a gingivitis, and I believe that Dr. Fletcher's statement is true that thrombosis plays a part; that it is a primary factor: in other words, the vasomotor system losing control and being soon affected by thrombosis and the degeneration of the nerve fibers of the gingivæ, prevents contraction in some cases and gives advanced retraction in others, and thence result two forms of pyorrhea, if I may use that term: 1. the acute, with the spongy gum, bleeding, pus formation, with chronic suppurative alveolitis as the termination or sequela; 2, the chronic, in which there is typical fibrosis, recessional gum, with that peculiar black stain running around the teeth—few know what it is—which produces a mechanical abrasion that gradually causes the tooth structure to become less and less and the alveolar process may be denuded of the periosteum, and on top of that we get recession of the gum which finally exposes the cementum of the tooth. This form of gingivitis is seldom or never mentioned as a pyorrheal condition. I believe it is pyorrheal myself. Another reason why I think that this classification is going to be borne out is this: In both cases, whether of the pus-forming type or the fibrosis variety, there is eversion of the teeth. In some cases of fibrosis the teeth are turned right out, so that they have to be extracted instead of being replaced. I think that the fibrous form of alveolitis goes more particularly with Dr. Talbot's theory; when there is faulty elimination or metabolism accompanied by liver disease, very often cholangitis is present, and anemic areas in the stomach, and the pancreas is at fault. In these cases there is a change in the tooth structure showing that there is arteriosclerosis behind it.

Dr. Daniel Hopkinson, Milwaukee: I have frequently tried to isolate some organism as an etiologic factor in this condition, but have met with negative results. But I think that possibly another way of isolating organisms, as the tubercle bacilli, is by the inoculation of the guinea-pig. If we question whether a certain lesion is tuberculous or not, by inoculating a guinea-pig, say in the groin, we can positively state whether the tubercle bacilli are present; even if in few numbers they will positively develop in the guinea-pig. So far as the histologic changes in tuberculosis or syphilis of these structures are concerned, they are frequently identical. If, however, the *Spirochæta pallida* be found, and we are positive that it is the pallida and not any other spirochete, then we can state positively that we are dealing with a syphilitic lesion. But unless an individual has frequently found these *Spirochætæ pallidæ* and has been able to differentiate them from the other spirochetes present, such a diagnosis would not be reliable. Pus-producing organisms might possibly be isolated by another inoculation.

I think that the tubercle bacilli are very rarely, if ever, obtained in sputum in a pure type. Especially in the mouth we find almost every form of suppurative organism; therefore, if we are dealing with a tuberculous lesion, there is undoubtedly present a secondary infection with pus-producing organisms.

Dr. M. L. Rhein, New York: I believe that the apparent variance of opinions on this subject is due entirely to the fact that we have never had a proper classification or nomenclature of pathogenic conditions involving what may be termed the peridental aspects. The exciting cause ought to be recognized in the nomenclature and associated with it the predisposing cause. A good example for such a nomenclature is that adopted by the dermatologists. We have been discussing here a large variety of diseases and attempting to include them under one particular head. I thoroughly believe that a large number of diseases can be properly termed "alveolitis," with an adjective expressing the predisposing cause, just as well as I am assured that a large number could be as appropriately termed "gingivitis," with its proper predisposing cause expressed by an adjective. I am sure that the class of cases in which faulty metabolism is a predisposing cause is an entirely different class. Those are the cases in which the tooth has a tendency to become everted or protrude. The result of my investigations on that particular type of disease is that it is due to the abnormal condition of the blood which is circulating in the pulp of the tooth and acting as an exciting cause. Faulty metabolism of some kind produces an irritation that makes itself felt in the end circulation that we have in the pulp of the tooth. I have given considerable attention to the microscopic examination of pulps of this nature, and I have found in such cases the most remarkable pathologic conditions in the pulps of teeth that have never even been abraded on their exterior surfaces. The removal of such pulps has been sufficient to produce a cure of such conditions. Dr. Fletcher and Dr. Talbot are discussing different diseases. Nothing can better demonstrate the absolute necessity for this Section to produce a proper classification of the different diseases of the alveolar or, what may be a better term, peridental, regions of the mouth.

Dr. Edward C. Briggs, Boston: That interstitial gingivitis is an entirely separate thing from infectious alveolitis seems to me perfectly clear. There is no question that infection often supervenes in interstitial gingivitis and brings about the true infectious alveolitis which Dr. Fletcher describes. But that it exists as a first condition in all cases I could not concede. Interstitial gingivitis, as I understand it, exists where there are no deposits, and that is one thing that is often overlooked in the treatment—that many cases of true interstitial gingivitis show very little evidence either in the way of pus or of deposits. These cases of infection we see and may confuse them at first with cases of interstitial gingivitis. I have seen two cases of actinomycosis which at first I thought were severe cases of interstitial gingivitis. I proved them to be cases of actinomycosis, and subsequent surgical treatment cured the condition.

Destruction of the alveolar process is not necessarily always caused by inflammation, but is the physiologic condition due to any irritation that is set up about the alveolar process, as after extraction. So we get it in the irritation that comes in gingivitis. The first treatment of these cases of interstitial gingivitis is the removal of the pulp, which is the beginning of the treatment in a great many cases, to offset the pathologic changes.

Dr. M. H. Fletcher, Cincinnati: I agree with Dr. Rhein that the nomenclature is still unsatisfactory. I have plainly stated in the paper that the soft tissues are first involved and that the bone becomes involved subsequently. The word "gingivitis" indicates the earlier stages of the disease, in which the part would recover with the simplest treatment did not the bone become the foundation or primary factor in the chronic stages. At the present I believe that the use of "alveolitis" as a generic term allows of the best description of the diseases of the soft tissues by the use of qualifying terms, as described in the paper. The name, however, is insignificant compared with the pathology and etiology. Both Drs. Talbot and Brown ignore this and other parts of the paper in their discussion. Arteriosclerosis is given great prominence in Dr. Talbot's book as well as in his discussion. The terms "arteriosclerosis" and "endarteritis obliterans" are practically synonymous, the latter term being a description of the closure of the arteries in arteriosclerosis. This disease of the arteries and the high pressure that accompanies constitute practically a disease of the large vessels, not usually found in the capillaries, and yet the capillaries, smaller arterioles, and Haversian canals are the only blood vessels found in the tissues about the teeth. Faulty metabolism, from any cause, fosters and augments any existing weakness or lesion, and this was set forth in Dr. Briggs' paper as in my own. Dr. Talbot says that I "ignore the autointoxications of pregnancy, drugs and disease" as a special cause of the disease. I do not believe, as he does, that this is a special factor here any more than it would be in any portion of the body where a point of least resistance is found. If Dr. Talbot will read the paper more carefully he could hardly make the remark that I class "all pathologic processes as infection," and I refer him and Dr. Brown to the paper itself for answers to most of their objections and to a more full discussion found in reprints of the paper and discussion. Dr. Talbot further says: "Dr. Fletcher forgets that here is a condition wholly unlike any other part of the body, the alveolar process being a doubly transitory structure. Its end is annihilation. It is natural for this bone to be absorbed; not so with other bones." I can not see any foundation for this statement. If by "doubly transitory structure" he means that the alveolar process is gradually becoming obsolescent and thereby is deficient in quality of structure or lacking in resisting power. I differ with him most emphatically. According to the laws of evolution, if an organ is becoming obsolescent from disuse it gradually grows smaller, and may grow weaker as far as muscles are concerned, but it always receives the requisite amount of blood and is perfectly nourished, but each generation finds it smaller. Under natural selection many hundreds of generations are required to make an appreciable change in a genus or a species. I believe that the written history of man is not long enough to make evident much change in him. According to the laws of evolution the teeth would disappear before the alveolar process. The teeth stimulate its growth; when they are extracted the process disappears. If, however, new teeth were present in the jaw and were to erupt, the alveolar process would be rebuilt as in the second or third dentitions. In rodents, elephants and all animals that have teeth of continuous growth, the alveolar process is also continuously renewed, showing that in vertebrate types the alveolar process is anything but a weak or transitory structure. The tail of the tadpole might be called transitory, but up to the time when it begins to disappear it is well supplied with circulation and nourishment and is perfectly strong for its function.

[Limitations of space in THE JOURNAL necessitate abbreviation of the discussion here, but copies of the paper and full discussion can be obtained by sending to Dr. Fletcher.]

CIRCULATORY DISTURBANCES IN DIPHTHERIA.*

JOHN HOWLAND, M.D.

NEW YORK.

Matthew Arnold, in his "Essays on Criticism," says: "It is true that all time given to writing critiques on the works of others would be much better employed if it were given to original composition."

From the truth of this statement we must occasionally except the subject of medicine, for it is not the work of one man that is analyzed, but the opinions and hypotheses of many. These often give us information of great value in regard to matters which are insusceptible of direct experimental investigation, and from such an analysis we may often see the gaps in our knowledge that require to be filled.

It is not possible within reasonable limits to give a systematic discussion of the whole subject of the circulatory disturbances in diphtheria, but I wish rather to consider the underlying causes of these disturbances, some aspects of the symptoms, and the rational therapy indicated to oppose or counteract these underlying causes.

A thorough knowledge of the cardiac lesions which result from diphtheria is requisite for a consideration of the production of symptoms, and this has been afforded by the careful and extensive studies of Hayem, Birch-Hirshfeld, Leyden, Unruh, Steffen, Ribbert, Romberg, Councilman, Mallory and Pearce and many others. Though they differ in regard to certain unessential details, their agreement is general and striking. Moreover, Aschoff and Tawara, who on the basis of a critical study opposed many of the views in regard to the heart muscle in other diseases, state that the changes in diphtheria are extensive and severe. Thrombosis, endocarditis and pericarditis play only an occasional rôle. The two chief lesions are the parenchymatous and interstitial.

Fatty degeneration is extremely frequent. It varies in degree from an extremely mild to a marked change and it constantly accompanies the severer lesions. This degeneration may occur in the first few days, but it is also found late in the disease. A much more severe degeneration which affects all parts of the muscle fiber, the contractile elements, the protoplasm and the nucleus, and which leads to the formation of granular detritus and large irregular hyaline masses, is also found. This is both focal and general and is at times so extensive that it was estimated by Councilman that in one of his cases one-third of the heart was destroyed. This extreme degeneration is only found late in the course of the disease, rarely earlier than the seventh day.

The interstitial changes are of two types: In the one type there are focal collections of lymphoid and plasma cells. In the other there is an invasion of the degenerated and necrotic muscle cells with endothelial cells and polymorphonuclear leucocytes. The first of these types is usually accompanied by some degeneration of the myocardium, but it is not dependent on it, while in the second type, during the process of repair, an extensive formation of connective tissue may take place. It should be emphasized that the interstitial changes are essentially late changes. Up to the sixth or seventh day, then, fatty degeneration is practically the only abnormal condition present in the heart.

There has been no satisfactory investigation in regard to the intrinsic nerves and ganglia of the heart. The findings in the pneumogastric nerves will be considered later.

It is usually customary to divide the circulatory symptoms according to the time of their appearance into the early, or those occurring during the period of local lesions, which is usually febrile, and those occurring late or during the period of convalescence, which is almost always afebrile. This is not strictly correct, but is more satisfactory than dividing them according to their mode of production, which would take for granted things that are still sub judice.

EARLY CIRCULATORY DISTURBANCES.

The early circulatory disturbance occurring at the height of the disease is extraordinarily fatal. When fully developed it is practically never recovered from and but a few hours at most separate the beginning of the symptoms and the termination. Before the introduction of antitoxin it was greatly feared, and with reason; now, thanks to antitoxin, it is rarely seen. We meet it most frequently in older children or young adults in whom for several days the throat process has been neglected. The unfortunate patient presents all the evidences of malignant diphtheria. The process in the throat is extensive with membrane covering tonsils, uvula, soft palate, pharynx, sometimes extending into the larynx. The nasopharynx is filled with membrane, making nasal respiration impossible, and the upper lip is excoriated with the bloody purulent discharge which escapes from the nostrils. The cervical glands are greatly swollen so as to fill all the depressions in the neck and make a veritable collar around the throat.

The temperature is sometimes greatly elevated, at others little above normal, but the prostration is extreme and there is marked pallor. The heart's action is usually rapid, but the sounds are for a time of fair quality and the blood pressure is not much below normal. Before long, however, though sometimes after the local process in the throat has begun materially to improve, the pulse becomes weaker, the blood pressure falls rapidly and progressively, the heart's action becomes more and more feeble, and the patient quickly passes into a condition of collapse which is unaffected by cardiac drugs. The heart, however, continues in many cases to beat after respiration has ceased.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

The explanation that the death in these cases is a cardiac death failed to satisfy the critical. Naunyn, Harnach, Rosenbach and others objected to it on the clinical grounds that in the majority of instances the heart remains regular, it sounds clear, the pulse palpable until shortly before death, and that the increased frequency can not be looked on as a sign of cardiac weakness because, on the contrary, with extensive cardiac disease, as in the late stages of diphtheria, the heart may be slow.

Criticisms from the pathologic side were also not lacking. In many instances the changes found in the heart itself were entirely insufficient to account for death.

To explain these discrepancies Romberg and Pässler instituted their well-known experiments. These experiments were carried out on rabbits, before and during the stage of collapse, who had previously been injected with a large number of living diphtheria bacilli. Tests were made of the capacity of the heart to work against increased obstruction (compression of the aorta), and of the function of the vasomotor center as shown by its reaction to nasal faradization and asphyxia. Just before collapse the heart was capable but the vasomotor center slow and incomplete in its response. During collapse the vasomotor center failed utterly, while the heart was capable of beating with slightly diminished force if the stimulus of obstruction was provided.

The proof is undoubted and has been accepted save in regard to the condition of the heart. Romberg and Pässler considered this normal. Pässler and Rolly, some years later, continued the experiments, using more exact methods, and decided that while death was due to the paralysis of the vasomotor center, the heart undoubtedly was considerably affected.

There can be no doubt that these results explain satisfactorily the symptoms as we see them in man, and the circulatory phenomena are strikingly similar if due allowance is made for the fact that in man the toxin is slowly absorbed through a period of many hours, and in animals, for technical reasons, it must be given in enormous doses at one injection. The fact that the heart shows impairment even without anatomic change gives some foundation for Hesse's theory of a functional interference with its action, due to the effect of the toxin, even though this has been vigorously denied by many writers on the subject.

Romberg's and Pässler's results have been generally accepted, but, curiously enough, not made use of by those writing on the therapy of this condition. Pässler investigated the effects of drugs on experimental animals. Caffein, camphor and digitalis, in the order named, were of most value, and infusion of salt solution had a favorable effect. But all the improvement was only temporary. This is only to be expected in view of the enormous quantity of toxin that was used.

In man it is interesting to speculate if, with poisoning so severe as to affect the vasomotor center, recovery is ever possible. One may imagine a condition where the balance was so slight on the wrong side that survival for a few hours might turn the scale toward recovery. No matter how unfavorable the outlook, we should use all our efforts, but they should be intelligently directed.

Caffein, camphor and digitalis hypodermatically and frequently repeated for their effect on the center, and adrenalin for its constricting influence on the blood vessels, are indicated. The last is so evanescent that but little can be hoped from it. Its use is, however, theoretically correct. One or two infusions of salt solution may be used. From antitoxin at this late date we can expect nothing. It should have been used long before and in sufficient quantities.

LATE CIRCULATORY DISTURBANCES.

The late circulatory disturbances may appear at any time from the second to the fifth week or even later. It seems unnecessary to adopt Förster's elaborate classification in regard to them, but he has shown that the time of their appearance has an important bearing on the prognosis.

We meet these disturbances usually in older children, and in the majority of instances after severe infections which have been untreated for a considerable length of time, but it is astonishing to see after how mild a local infection trouble with the myocardium may occur. It is only in uncomplicated cases that symptoms may be studied properly. Pneumonia and other complications so disturb the picture that it is at times impossible to recognize the condition.

We may divide the symptoms into those presented by the pulse and heart and directly dependent on the circulation, and those of a more general character. Many of those presented by the heart and pulse are easy to elicit, while others depend more or less on the personal factor of the examining physician, and there is a great discrepancy in opinion regarding them which more or less destroys their statistical value.

The first symptoms are usually found between the ninth and fifteenth day, whereas anatomically the late changes, i. e., necrosis and hyalin degeneration and interstitial infiltration, may be found from the sixth to the ninth day. This, taken with the fact that at autopsy there may be found considerable myocardial change that in spite of the most careful examination has escaped clinical observation, demonstrates that the pathologic changes require several days development before they are sufficiently marked to give recognizable symptoms.

The first symptoms are usually found in the pulse, which drops with the temperature, often to below normal, and may remain there for several days before rising again, or it may rise and fall again and repeat this several times. In a certain percentage of cases it may stay persistently high. Either of these actions means almost certainly myocarditis.

At other times the first symptom is irregularity in force or rhythm of the pulse. Irregularity in force is much more important than that in rhythm, for the latter is frequently encountered in children, while, on the other hand, the pulse may be regular throughout the course of a severe myocarditis. Irregularity in force, however, is constantly present and may remain for months. The pulse, though it may be regular, is very unstable, is affected by the emotions and by exercise to a most pronounced degree and may retain this quality far on into convalescence when all other evidences of disease have disappeared. As before mentioned, the rapidity varies greatly and from it alone not much information can be obtained: the worst prognosis is to be given those cases with a low and constantly falling rate.

An examination of the heart reveals the same abnormalities as does the pulse, but in addition others on which much attention has been focused, and foremost among these are murmurs and evidences of dilatation.

It is with regard to these two that the personal factor of the examining individual plays such an important part, and it is therefore no surprise to find that the interpretation of results by different observers varies widely. It is universally agreed that murmurs are frequently present at this time; they are in the vast majority of cases systolic in time, blowing in character, and though at first heard loudest over the base or body of the heart, eventually are heard with greatest intensity in the vicinity of the apex. It is also universally agreed that endocarditis is very rare. There is a great diversity of opinion in regard to the meaning of these murmurs. Hibbard considered that 10 per cent. of diphtheria patients had evidences of actual regurgitation through the mitral valve, while White and Smith, working in the same hospital some years later, considered that 75 per cent. of their patients leaving the hospital had murmurs thought to be organic and due to mitral insufficiency resulting from changes in the heart muscle. There is almost as great a difference of opinion among other observers. While there is undoubted evidence that murmurs from dilatation occur and occur frequently, it seems to me that the value of these murmurs as an index of mitral insufficiency due to dilatation has been greatly overrated, and that we should look on them with some caution.

Whether or not we accept Sahli's views as to the production of accidental murmurs, we have present in diphtheria those conditions in which they are usually found, that is, dilated blood vessels and an anemia marked and progressive. Hochsinger's assertion that accidental murmurs are unusual in children is true only of the very young, and the circulatory disturbances are usually met with in the older. Then, too, murmurs appear and persist only a few hours or days, and may disappear and even reappear again. This could hardly be true were they due to organic muscular lesions. Mallory's findings in one case of changes limited to the papillary muscles alone suggests the part that they may play. An accentuation of the second pulmonic sound as an evidence of regurgitation should also be regarded with caution as a second pulmonic sound louder than the second aortic is the rule up to adult life, and the accentuation may be only relative on account of the great weakness of the first sound. Finally, so many patients with these auscultatory changes show nothing else abnormal that it is difficult to reconcile the mildness of the clinical course with the assumed severity of the anatomic lesion.

Murmurs are seldom the only symptom, but, on the other hand, there may be a fatal termination and no murmur at any time. For these reasons we can not draw accurate deductions as to the severity of the lesion present from the presence or absence of these murmurs.

In regard to dilatation there is equally a difference of opinion. Unruh thought that the dilatation was usually of the right side of the heart; Schmaltz, Förster and the majority of observers think it occurs chiefly on the left side. Förster, however, says that it is frequent on the right side with croup. Rabot and Philippe believe the diagnosis of this condition to be so difficult, especially in children, as to render the results untrustworthy. It is my personal opinion that dilatation has been diagnosticated too frequently, but it would, nevertheless, be quite incorrect to pretend that it is a rare or unusual condition.

EVIDENCE OF MYOCARDIAL DISEASE.

As an evidence of myocardial disease there is another sign which is of greater value than any of the others on account of its great constancy. This is the alteration in the character of the first sound of the heart. No murmurs or evidences of dilatation may be present even in fatal cases, the pulse may be regular in rate and normal in rapidity, but the first heart sound betrays the difficulty. The alteration consists in the more or less complete disappearance of the muscular element in the first sound, the valvular element remaining, or this also may be diminished and even absent. This makes the first sound short, weak, and, as it is usually described, "valvular" in quality. At times the loss of muscular quality is so marked that only by the length of diastole can we tell which is the first and which is the second sound, and if, as sometimes occurs, the pause between the first and second and the second and the succeeding first sound are of equal length, and the so-called "embryocardia" results, this may be impossible. This is no new observation; it was long ago noticed, and is usually mentioned, but never the emphasis laid on it that it deserves.

The absence of a normal sound or element of a sound is exactly as important as the presence of an abnormal one, though not so apt to attract attention. The change is not always easy of recognition, for which frequent examinations by an experienced person are required. A moment's consideration, however, points toward this as the logical abnormality to be found. The great dependence of the first sound on the muscular contraction for its quality, and the anatomic changes present in and around the muscle fibers in diphtheria, clearly demonstrate why this change in quality takes place. I have been struck with the constancy of this sign and its great persistence, lasting as it does at times for weeks and months, even after murmurs accompanying it have disappeared.

Its value may also be demonstrated by means of a test such as Gräupner's. I have made a few of these, enough to satisfy myself of the truth of this statement. Gräupner's test, as you know, is the testing of the pulse rate and blood pressure before and after a certain amount of physical exercise. The normal or compensated heart reacts to this by a rapid rise in pulse rate, which in the course of a very few minutes returns again to normal and by a more gradual rise in blood pressure which persists for a considerable length of time after the rate is normal. Insufficient hearts react in various ways, such as by a failure in pressure rise or a persistence of increased rate.

It is, of course, necessary to perform this test with great care; therefore, in the case of the boy of 9 years whose chart is here shown, instead of having him perform several thousand foot pounds of work, as is usually done, I only allowed him to run up a few steps, amounting to 783 foot pounds of work. He was a boy who had had a moderately severe diphtheria untreated for five days three weeks before. When I made the first few tests he had a weak, valvular first sound at the apex and a faint systolic murmur. The chart shows his failure to react to this test; his pulse rate rose and sank shortly, but the blood pressure, instead of rising, fell and remained subnormal for eighty-seven minutes. Seventeen days later, when the first sound of his heart was again normal, he reacted, as the chart shows, quite normally. An increased amount of exercise would undoubtedly have made the changes still more striking, but I did not consider it safe. It is, therefore, much better to depend on the first sound of the heart as an index of the patient's ability to be allowed to take exercise rather than on the presence and absence of murmurs.

Studies in regard to the blood pressure are incomplete and unsatisfactory. The pressure may remain fairly high though generally somewhat below normal. A pressure below 75 mm. always indicates a serious condition and below 70 mm. a very dangerous one. Patients showing a progressive fall should excite the most concern.

Dyspnea, precordial distress, cyanosis, edema and evidences of passive congestion are rare, except passive congestion of the liver, the presence of which is in striking contrast to the absence of congestion elsewhere. Congestion of the liver causes an increase in hepatic dulness, marked tenderness and sometimes pain in that organ.

The general symptoms are at times very much in evidence. One of the earliest of these is pallor, which is found before there is sufficient anemia to account for its great development. A child whose color one afternoon presents nothing abnormal, on the following day may be blanched with an almost cadaveric pallor. Children also may show pronounced mental symptoms, being either apathetic, somnolent and indifferent, or at times excitable, restless and irritable. Gastrointestinal disturbances, especially vomiting, may be present. The vomiting may occur at any time in the course of the disease, may be persistent, and when severe always excites concern. Schmaltz says that it is not probable that these conditions are always the consequence of circulatory disturbances, and that they not infrequently come on at a time when this explanation hardly seems to be supported by the condition of the heart. Loss of weight is also common even during convalescence, when there is no fever and when patients are ingesting a perfectly satisfactory amount of food. I wish to discuss later these symptoms somewhat more particularly.

CAUSE OF DEATH.

The cause of death has not been worked out experimentally. Hallwachs attempted it ten years ago, following the method of Romberg and Pässler, but did not use toxin and was unable to produce post-infectious circulatory disturbance with characteristic changes in the heart muscle. There are great difficulties in accomplishing this, but there is every reason why it should be done. Clinical evidence, though, is conclusive in regard to myocarditis as the cause. Krehl expresses the general view when he says that the circulatory disturbances in convalescence are undoubtedly due to myocarditis; both processes run parallel, and it is clear from the development and exhibition of symptoms that they are to be referred to an insufficient heart muscle.

Henoch, Strümpell and others have sought to explain certain symptoms on the basis of disturbance with the cardiac ganglia, but, as Romberg says, it does not seem necessary to bring in factors which are so slightly understood when there are sufficient explanations in the muscle itself.

TREATMENT.

As far as treatment is concerned there can be no doubt that rest and general management accomplish much more than drugs. All are agreed as to this. On the subject of the value of the different circulatory stimulants there is far less unanimity of opinion. The number of drugs that have been advised in this condition is proof of their inefficiency, especially when practically all observers agree that digitalis, the most certain of all cardiac stimulants, fails in its effect. This at once raises the interesting question whether, if the cardiac muscle is so extensively diseased as to fail to meet the demands made on it by its normal regulatory apparatus, it is capable of being advantageously stimulated by drugs. Clinical experience seems to indicate that it is not, and if occasionally a clinician speaks favorably of one drug it has always been found ineffective in the hands of others. Krehl frankly states that drugs are unsatisfactory. Certainly we can expect very little permanent effect from their use and permanency of effect is what is required, for the myocardial lesions require days and weeks and not hours for their cure.

PNEUMOGASTRIC PARALYSIS.

I have left until the last, because I wish especially to consider that interesting and extremely fatal type of case, usually ascribed to pneumogastric paralysis. The picture of this condition is well known and justly dreaded. It occurs generally after a severe infection untreated with antitoxin or treated late. After a subsidence of the local symptoms convalescence apparently begins, but in my experience careful observation has never failed to show evidence of circulatory disturbance and myocarditis. This disturbance frequently increases in severity, and with it often appear together the three symptoms on account of which the pneumogastric nerve is accused. These are slow pulse, epigastric pain and vomiting. Within a short time the patient goes into a condition of most profound collapse and often is comatose just before the end. To explain this striking symptom-complex it has been the habit to invoke changes in the pneumogastric nerves, especially as these nerves examined postmortem in a number of fatal cases following such symptoms have shown degenerative lesions.

Now to prove the involvement of the pneumogastric nerve, this nerve must be found degenerated in all such cases and, per contra, undegenerated in practically all others. Huguenin, Leyden and other early observers who examined these nerves pronounced them generally normal, but with the modern technic and care the results have been far different. Thus in a series of nine cases reported by Hibbard, fifteen by Thomas, two by Steensland, twenty-eight by Mallory and fourteen by Thomas and Hibbard, a total of sixty-eight in all, the pneumogastric nerve was found to be degenerated in every single case. These changes were found without regard to the association of symptoms, some had vomiting, some pain and some slow pulse; others had none of these, and in many the diphtheria was very mild, the fatal outcome being referred to a complicating scarlet fever or measles which supervened on the original diphtheria infection. Moreover, in an 11-months-old child dying of pneumonia, definitely not due to diphtheria, who had shown none of these symptoms, Thomas found an extensive degeneration of the nerve.

These findings almost completely dispose of the pneumogastric nerve as a factor in producing the symptoms that have been referred to it, otherwise we should meet this symptom-complex daily. Nor can, in some cases at least, the slow pulse be referred to the vagus. Bradycardia occurs following typhoid and other infectious diseases as well as diphtheria, and Dehio found that this bradycardia was unaffected by atropin. Schmaltz made the same observation in diphtheria. Atropin by its effect on the vagus termination prevents its inhibitory effect on the heart, and were the slow pulse due to the vagus, after the use of atropin in sufficient quantity, the rapidity of the heart would be greatly increased. But this has not been found to be the case. Theoretically also we should expect a rapid and not a slow pulse with an extremely degenerated vagus.

It seems to me that we can best consider the vomiting in connection with some of the other symptoms that occur in the period of apparent convalescence. These are the pallor, great prostration, progressive emaciation, stupor and at times convulsions. In regard to them no explanation is usually vouchsafed.

It is known that the toxin of diphtheria is very quickly fastened to the cells of the body; that the combination is at first loose and can be broken up by antitoxin, but that after a few hours the toxin can no longer be dislodged from the cells. Yet its effect is not at once manifest. For instance, nephritis may develop late, myocarditis at times does not appear for weeks, and peripheral neuritis may not be manifest for months. But the toxin is none the less powerful, as its profound effect on almost all the body tissues shows, and prominent among these effects are the great changes in the liver (extreme degeneration and necrosis).

With a knowledge of these facts I have begun a study of the metabolism of diphtheria, which has been singularly neglected. I can find no reference to this work in man, and only two very incomplete studies in animals by De Croly and Noel Paton. De Croly found in rabbits an increased nitrogen excretion which was of short duration, and Paton, who was investigating the effect of fever, found an increase in nitrogenous metabolism in dogs.

I only wish to show at the present time the nitrogenous excretion during two days in the case of a boy 15 years old who had a severe process in the pharynx and who was ill three days before being treated with antitoxin. His throat cleared up rapidly, his temperature fell to normal and his pulse to below normal. He suffered for two weeks from evidences of myocarditis, but thereafter improved rapidly and was discharged cured.

His urine was collected for twenty-four hours, beginning twenty-four hours after his temperature reached normal. This was done so as to eliminate the influence of fever on nitrogenous excretion. The urine was again examined eight days later. On each of these two days he took only a milk diet.

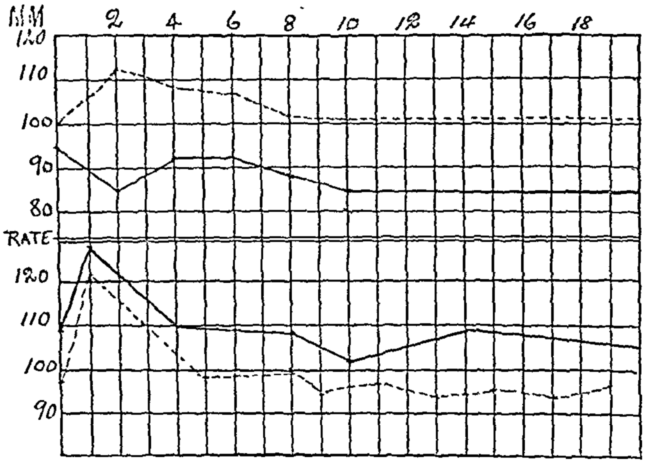
gms. and excreted only 10. The extraordinary excess of the excreted nitrogen on the first day is at once a striking feature; there is nothing abnormal that can be

It will be seen by the table that during the first day he ingested a little over 9 gms. of nitrogen and excreted over 24, while eight days later he ingested 13

made out in the proportion of the different nitrogen-containing substances. This great excretion of nitrogen, however, is evidence of some marked influence which in the absence of fever or other disturbing factor we must refer to the latent effect of the toxin. Extensive studies are required on this aspect of the question, but I feel sure that we shall find, especially in fatal cases, and most of all in those with marked liver and kidney changes, evidences of great metabolic disturbance. In this way, it seems to me, the general symptoms and the vomiting can be best explained, referring the slow heart and other circulatory symptoms to the concomitant myocarditis.

Day.	Nitrogen of food.	Nitrogen of urine.	Urea, N.	NH_3 N.	Creatinin N.	Creatin N.	Uric acid N.	Undetermined N.
7	9.0+	24.14	19.19	1.65	0.43	0.33	0.24	2.3
			79.4	*6.9*	*1.8*	*1.3*	*1.0*	*9.5*
15	12.0+	10.06	8.18	0.73	0.30	0.12	0.11	0.62
			81.3	*7.2*	*3.0*	*1.2*	*1.0*	*6.3*

The table shows the excretion of nitrogen (in grams) during the seventh and fifteenth day of illness. The figures in italics are the percentages of total nitrogen. The great excretion of urinary nitrogen on the seventh day is striking. The temperature was normal on both days.



The chart shows the reaction after exercise when the first heart sound was abnormal (solid line) and when, seventeen days later, it was normal (broken line). It will be noticed that when the sound was abnormal the blood pressure fell and remained low, whereas seventeen days later it rose promptly after exercise.

STUDIES IN INFANTILE DIGESTION.*

ALFRED FRIEDLANDER, M.D.
CINCINNATI.

The problems of digestion in infancy and early childhood have engaged the attention of pediatricians for a long time, and our literature is filled with discussions as to the digestive activities, possibilities and difficulties in early life. A method of study which approaches the subject from a new view-point should, therefore, have a certain justification. It seemed to me that the bead test, as originally devised by Einhorn, might be a valuable method of direct clinical study. This test was proposed originally for adults, but the feasibility of its use for children struck me. Once engaged on the study of this test, the possibility of its application to very young children, indeed to new-born infants, was apparent, provided that certain difficulties of technic could be overcome. By the procedure about to be described, it was found to be very easy to apply the test to infants of any age. A systematic trial of the test was therefore undertaken to determine its value as a working method in infants and children.

THE BEAD TEST.

Einhorn's method, briefly, is as follows: Small pieces of various food stuffs are fastened to small glass beads by a silk thread. The beads are strung together by an additional thread and the string of beads, with attached food stuffs, is put into small gelatine capsules. These capsules are swallowed by the patient and the string of beads is then later recovered from the stool. The exact time required for the passage of the beads through the gastrointestinal canal must be noted in each instance. If the beads remain in the tract over fifty hours, the results are not considered reliable, because of the possibility of degeneration as the result of the action of the intestinal bacteria.

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Einhorn has recommended the following test substances:

Mutton fat, for fat digestion. Beads are dropped into melted mutton fat, which is then allowed to cool, so that the beads become coated with the fat.

Beef, for proteid digestion. Small strands of raw fresh beef or of raw beef in alcohol are tied to the beads.

Potato, for starch digestion. Potatoes are boiled for two minutes, and small pieces cut with peel attached. These pieces are sewed to the beads.

Catgut, for fibrin digestion. Small strands of raw catgut are tied to the beads.

Nuclear digestion, small pieces of sweetbread. These are enclosed in small gauze bags and the bags are tied to the bead. After the passage of the bead with the sweetbread, the bag is opened, contents, if present, cleaned, smears made on slides and stained with methylene blue and examined to see whether nuclei are still present. It is not considered as absolutely proved that the presence of nuclei in the sweetbread substance after passage through the intestinal tract must necessarily indicate the absence of active trypsin, but, on the other hand, if the nuclei are all digested, it is safe to conclude that active trypsin is present.

AUTHOR'S EXPERIMENTS.

The present series of experiments was conducted on two lines. Older children, able to swallow capsules, were given capsules prepared according to the method of Einhorn, with one modification. This was, that in my series, all of the food stuffs were enclosed in small bags of wide meshed gauze so as to eliminate the possibility of error from the tearing loose of the food stuffs from the bead. It was found to be perfectly feasible to have five small bags containing mutton fat, catgut, potato, beef and sweetbread, each attached to a special colored bead (for purposes of identification), all inserted into a five grain capsule, which the older children had no difficulty in swallowing.

For very young children and infants, the following modification of the method was devised. Naturally, the swallowing of capsules would be out of the question in the case of infants, and several infants in the series to be reported were less than one month of age at the time of experiment. Single beads each with a single food stuff in attached gauze bag were used. By means of a small piece of rubber catheter the introduction of the food stuff into the infant's stomach was comparatively easy. The bead was inserted into the end of the previously sterilized piece of catheter. The catheter was pushed past the constrictors of the pharynx as in the introduction of a stomach tube, and then by means of a stilet passed through the catheter, the bead was pushed out of the catheter and thus into the esophagus. After some little experiment I found that an olive pointed Otis bougie answered very well as a stilet. No difficulty was ever experienced in the introduction of the beads into the esophagus. Indeed, there could be none, as there is no danger of the beads getting into the larynx.

The introduction of the beads was found to be surprisingly easy, even in the case of infants only a week old. Nor did any bad results ever follow the introduction of the beads, though the complete list of experiments on infants and children included over two hundred different administrations. The recovery of the beads from the stools was also very simple, and in a hospital, with careful supervision of the children day and night, the exact time required for passage could also be noted in every case.

The results of the experiments are tabulated in Tables 1-9.

TABLE 1.—CAPSULE SERIES.

No.	Name.	Age. Yrs.	Diagnosis.	Capsule and Result.		Time in hours.
1	Z	5	Chorea and endocarditis.	Mutton fat. Potato. Catgut. Beef. Sweetbread.	+ p + + +	32
2	B.	11	Tb. knee.....	Mutton fat. Potato. Catgut. Beef. Sweetbread.	+ p + p +	20½
3	Zef	6	Hysteroepilepsy.	Mutton fat. Potato. Catgut. Beef. Sweetbread.	+ p + p +	21
4	B., Caps. 2....	11	Tb. knee.....	Mutton fat. Potato. Catgut. Beef. Sweetbread.	+ + + + +	30
5	Z., Caps. 2....	5	Chorea and endocarditis.	Mutton fat. Potato. Catgut. Beef. Sweetbread.	+ p — p +	21½
6	W.	5	Tb. hip......	Mutton fat. Potato. Catgut. Beef. Sweetbread.	+ p — p +	17
7	Z, Caps. 3....	5	Chorea and endocarditis.	Mutton fat. Potato. Catgut. Beef. Sweetbread.	+ + + p +	26½
8	B., Caps. 3....	11	Tb. knee.....	Mutton fat. Potato. Catgut. Beef. Sweetbread.	+ + + + +	26½
9	L.	3	Bronchopneumonia.	Mutton fat. Potato. Catgut. Beef. Sweetbread.	+ + + + +	52½
10	Balz	11	Enuresis	Mutton fat. Potato. Catgut. Beef. Sweetbread.	+ — + + +	163
11	W., Caps. 2....	5	Tb. hip	Mutton fat. Potato. Catgut. Beef. Sweetbread.	+ — + p +	17½
12	Balz, Caps. 2..	11	Enuresis	Mutton fat. Potato. Catgut. Beef. Sweetbread.	— p — + +	22½*
13	Zef, Caps. 2...	6	Hysteroepilepsy.	Mutton fat. Potato. Catgut. Beef. Sweetbread.	+ p — — +	17½

* Passed 4 hours after Caps. 1.

TABLE 1.—CAPSULE SERIES—Continued.

No.	Name.	Age. Yrs.	Diagnosis.	Capsule and Result.		Time in hours.
14	W., Caps 3....	5	Tb. hip	Mutton fat.	—	27½
				Potato.	+	
				Catgut.	—	
				Beef.	p	
				Sweetbread.	+	
15	Balz, Caps 3...	11	Enuresis	Mutton fat.	+	24
				Potato.	p	
				Catgut.	+	
				Beef.	+	
				Sweetbread.	+	
16	Zef, Caps. 3...	6	Hysteroepilepsy.	Mutton fat.	+	16½†
				Potato.	—	
				Catgut.	—	
				Beef.	+	
				Sweetbread.	+	
17	L., Caps. 2....	3	Bronchopneumonia.	Mutton fat.	+	24½
				Potato.	p	
				Catgut.	p	
				Beef.	p	
				Sweetbread.	+	
18	Balz, Caps. 4..	11	Enuresis	Mutton fat.	+	17½
				Potato.	+	
				Catgut.	+	
				Beef.	+	
				Sweetbread.	+	
19	B., Caps. 4....	11	Tb. knee.....	Mutton fat.	+	20½
				Potato.	—	
				Catgut.	+	
				Beef.	+	
				Sweetbread.	+	
20	W., Caps. 4....	5	Tb. hip......	Mutton fat.	+	21½
				Potato.	—	
				Catgut.	+	
				Beef.	+	
				Sweetbread.	+	
21	B., Caps. 5....	11	Tb. knee.....	Mutton fat.	+	18½
				Potato.	—	
				Catgut.	+	
				Beef.	+	
				Sweetbread.	+	
22	Balz, Caps, 5..	11	Enuresis	Mutton fat.	+	20¾
				Potato.	p	
				Catgut.	+	
				Beef.	+	
				Sweetbread.	+	
23	W., Caps. 5....	5	Tb. hip......	Mutton fat.	—	25
				Potato.	+	
				Catgut.	p	
				Beef.	p	
				Sweetbread.	+	
24	B., Caps. 6....	11	Tb. knee.....	Mutton fat.	+	21½
				Potato.	p	
				Catgut.	+	
				Beef.	p	
				Sweetbread.	+	
25	W., Caps 6....	5	Tb. hip......	Mutton fat.	+	22½
				Potato.	—	
				Catgut.	+	
				Beef.	+	
				Sweetbread.	+	
26	Balz, Caps. 6..	11	Enuresis	Mutton fat.	+	26½
				Potato.	—	
				Catgut.	+	
				Beef.	+	
				Sweetbread.	+	
27	L., Caps. 3....	3	Bronchopneumonia.	Mutton fat.	+	18½
				Potato.	+	
				Catgut.	—	
				Beef.	+	
				Sweetbread.	+	

† Potato 5 minutes from this time on.

Six children ranging in age from 3 to 11 years were employed in carrying on the experiments. Two experiments were excluded because the time limit exceeded (52½ and 163 hours.) In the remaining 25 tests, complete digestion occurred twice, both in the same boy, aged 11. Tb. knee. (Symbols: + = digestion. p. = partial digestion (at least half). — = no digestion.)

Mutton fat: 21 +: 4 —. Potato: 5 min. and 2 min.: 8 +; 10 p: 7 —. Catgut: 17 +: 2 p; 6 —. Raw beef: 14 +; 9 p; 2—. Sweetbread: 25 +.

Cases in which experiments were repeated in the same child:

Bramowitz, aged 11, Tb. knee, 6 experiments.

Mutton fat	6 +		
Potato	2 +	2 p	2 —
Catgut	6 +		
Beef	4 +	2 p	
Sweetbread	6 +		

Weber, aged 5 Tb. hip, 6 experiments.

Mutton fat	4 +		2 —
Potato	2 +	1 p	3 —
Catgut	3 +	1 p	2 —
Beef	2 +	4 p	
Sweetbread	6 +		

Balzer, aged 11, enuresis, 6 experiments.

Mutton fat	4 +		1 —
Potato	1 +	3 p	1 —
Catgut	4 +		1 —
Beef	5 +		
Sweetbread	5 +		

TABLE 3.

Milk Curd.—Milk curdled with essence of pepsin, 2 ounces to 1 pint of milk strained through a gauze bag. Milk curd placed in 50 per cent. alcohol for one-half hour, then in water for twenty-four hours. Pieces of curd then placed in gauze bag; bags tied to beads.

No.	Name and Age.	Diagnosis.	Result.	Time in hrs.
1	B., 13 mos....	Gastroenteritis, chronic.	+	20½
2	E., 12 mos....	Gastroenteritis, otitis.	+	23½
3	M., 11 mos....	Gastroenteritis, chronic.	+	39½
4	F., 15 mos....	Pneum. convales.	+	44½
5	Mart, 14 mos..	Pneum. convales.	+	19
6	G., 5 mos.....	Well in with mother.	+	18
7	B., 13 mos....	Gastroenteritis, chronic.	+	18½
8	B., Exp. 2, 13 mos........	Gastroenteritis, chronic.	+	42
9	S., 10 wks.....	Gastroenteritis, acute.	+	27½
10	G., 9 mos.....	Gastroenteritis, chronic.	+	31
11	Y., 11 mos....	Gastroenteritis, chronic.	+	22½
12	K., 5 wks.....	Well in with mother.	+	22

Twelve experiments. All +. Children ranging in age from 5 weeks to 15 months. (+ = digestion. p = partial digestion (at least half). — = no digestion.)

TABLE 4.

Egg White.—Egg boiled 6 minutes. White placed in 50 per cent. alcohol for one hour, then in water. Small pieces in gauze bags; bag tied to bead.

No.	Name and Age.	Diagnosis.	Result.	Time in hrs.
1	B., 13 mos....	Gastroenteritis, chronic.	+	19
2	G., 5 mos.....	Well in with mother.	+	23½
3	B., Exp. 2, 13 mos.........	Gastroenteritis, chronic	+	49
4	C., 3 yrs......	Mastoid Post. op.	+	48¼
5	S., 10 wks.....	Gastroenteritis, acute.	+	18

Five experiments. All +. Children ranging in age from 10 weeks to 3 years. (+ = digestion. p. = partial digestion (at least half). — = no digestion.)

TABLE 5.

Egg Yolk.—Egg boiled 15 minutes. Yolk placed in 50 per cent. alcohol for one hour, then in water. Later in alcohol again. Small pieces in gauze bags. Bag tied to bead.

No.	Name and Age.	Diagnosis.	Result.	Time in hrs.
1	B., 13 mos....	Gastroenteritis, chronic.	+	18¼
2	G., 9 mos.....	Gastroenteritis, chronic.	+	43¼
3	S., 10 wks....	Gastroenteritis, acute.	+	14½

Three experiments. All +. Children aged 10 weeks, 9 months, 13 months. (+ = digestion. p = partial digestion (at least half). — = no digestion.)

SUMMARY.

CAPSULE SERIES.

In only one child, a boy of 11 (with tubercular knee), was there complete digestion of all the food stuffs, and this complete digestion occurred twice in this child. The sweetbread was digested completely in all cases. The mutton fat was completely digested in 21 out of 25 experiments. The catgut was digested 17 times, the raw beef 14 times and the potato only 8 times. In both the raw beef and potato series partial digestion was noted in a considerable number of the cases where there was no complete digestion.

Placed in the order of their positive results, these capsule experiments showed the following order for the digestibility of the different food stuffs: Sweetbread, mutton fat, catgut, raw beef and potato. It is noteworthy that there was complete digestion of the sweetbread in every case, as evidence of the activity of the trypsin, while the starch digestion was least active. Practically similar results were obtained in the infants with single beads.

The average time required for the passage of the capsule in the 25 experiments was 22⅓ hours, with 32 and 17 hours as the extremes on either side.

SINGLE BEAD SUMMARIES.

Raw Beef.—Forty-one experiments. In children over 1 year, there were 25 experiments; 14 showed complete digestion; 5 showed partial digestion. In children under 1 year there were 13 experiments, with 5 complete and 2 partial digestions. In 2 children, each aged 5 months, there was complete digestion.

Milk Curd.—Twelve experiments in children varying in age from 5 weeks to 12 months, complete digestion in every case.

TABLE 2.

Raw Beef.—In first experiments a single strand was tied to the bead. In most of the experiments a small mass of raw scraped beef was placed in a wide meshed gauze bag and tied to the bead.

No.	Name.	Age.	Diagnosis.	Result.	Time in hrs.	
1	V.	4 yrs.	Bronchopneumonia	+	24	
2	W.	11 yrs.	Aortic insufficiency	+	28	
3	G.	5 mos.	Well in with mother	+	24	
4	V., Exp. 2	4 yrs.	Bronchopneumonia	+	35¼	
5	K.	5 mos.	Gastroenteritis, chronic.	+	11½	
6	Y.	5 mos.	Pneu.; malnutrition	+	23½	
7	W., Exp. 2	11 yrs.	Aortic insufficiency	—	24	Meat in narrow meshed bag.
8	V., Exp. 3	4 yrs.	Bronchopneumonia	—	24	Meat in narrow meshed bag.
9	K.	13 yrs.	Typhoid convalescence.	—	23	Meat in narrow meshed bag.
10	V., Exp. 4	4 yrs.	Bronchopneumonia	+	32	Meat in narrow meshed bag.
11	W., Exp. 3	11 yrs.	Aortic insufficiency	p	9	Meat in narrow meshed bag.
12	K., Exp. 2	13 yrs.	Typhoid convalescence.	+	19	Meat in narrow meshed bag.
13	W., Exp. 4	11 yrs.	Aortic insufficiency	+	23½	Strand of beef. Given at same time as (14) which was in bag. Beads passed together.
14	W., Exp. 5	11 yrs.	Aortic insufficiency	+	23½	
15	K., Exp. 3	13 yrs.	Typhoid convalescence.	+	27	These beads were given together. Strand of beef and beef in bag passed at different times; digestion + in both.
16	K., Exp. 4	13 yrs.	Typhoid convalescence.	+	21	
17	E.	12 mos.	Gastroenteritis, otitis	+	22	
18	Mey	11 mos.	Gastroenteritis, chronic.	+	31	
19	B.	13 mos.	Gastroenteritis, chronic.	+	187½	This bead retained 24 hrs longer than one given 6 days later.
20	Mart	14 mos.	Pneu. convalescence	+	18	
21	Y.	12 mos.	Gastroenteritis, chronic.	—	19	
22	Y., Exp. 2	12 mos.	Gastroenteritis, chronic.	p	194½	Bead retained much longer than one given 4 days later. Was passed with bead given 6 days later
23	Mey, Exp. 2	11 mos.	Gastroenteritis, chronic.	—	14	
24	Mart, Exp. 2	14 mos.	Pneu. convalescence	+	32½	
25	Mey, Exp. 3	11 mos.	Gastroenteritis, chronic.	p	22	
26	B., Exp. 2	13 mos.	Gastroenteritis, chronic.	—	11½	
27	E., Exp. 2	12 mos.	Gastroenteritis, otitis	+	187½	
28	Mart, Exp. 3	14 mos.	Pneu. convalescence	p	18¼	
29	Mey, Exp. 4	11 mos.	Gastroenteritis, chronic.	+	26½	
30	Y., Exp. 3	12 mos.	Gastroenteritis, chronic.	p	14	
31	B., Exp. 3	13 mos.	Gastroenteritis, chronic.	—	19	
32	Fels	15 mos.	Pneu. convalescence	+	14½	
33	Mart, Exp. 4	14 mos.	Pneu. convalescence	p	32½	
34	Y., Exp. 4	12 mos.	Gastroenteritis, chronic.	p	47	
35	G.	5 mos.	Well in with mother	—	18	
36	Geig.	9 mos.	Gastroenteritis, chronic.	p	18	
37	Sigm.	10 wks.	Gastroenteritis, acute	—	19½	
38	Sigm., Exp. 2	10 wks.	Gastroenteritis, acute	—	19½	
39	Grov.	4 wks.	Well in with mother	—	20	
40	Berk	5 mos.	Well in with mother	+	30¾	
41	KeR.	5 wks.	Well in with mother	—	28	

+ = digestion. P = partial digestion (at least half). — = no digestion. Three cases in which bead was retained over 50 hours excluded.

One year or over.	Less than one year.
+ 14	+ 5
p 5	p 2
— 6	— 6

In two cases, each aged 5 months, digestion was complete.

Cases in which experiment was repeated in same child:

(V), 4 years, bronchopneumonia, + + — +.
(Y), 12 months, gastroenteritis, chronic (malnutrition), — p p.
(W), 11 years, aortic insufficiency, + — p + +.
(K), 13 years, typhoid convalescence, — + + +.
(Mey), 11 months, gastroenteritis, chronic, + — p +.
(Mart), 14 [illegible] convalescence, + + p p.
(B), 13 mor[illegible] chronic, — —.
(Y), 12 mon[illegible] chronic (malnutrition)), — p p.
(Sigm), 10 [illegible] mother, — —.

TABLE 6.

Catgut.—Pieces of No. 2 catgut, about 1 or 1½ inches long. Either tied directly to bead or placed in gauze bags, which were tied to the beads.

No.	Name.	Age.	Diagnosis.	Result.	Time in hrs.	Remarks.
1	R.	12 yrs.	Chorea	+	46	Tied to bead.
2	Y.	12 mos.	[illegible]	+	32	Tied to bead.
3	M.	11 mos.	[illegible]	+	22½	Tied to bead.
4	E.	12 mos.	[illegible]	+	22½	Tied to bead.
5	B.	13 mos.	[illegible]	+	32½	Tied to bead.
6	Y., Exp. 2	12 mos.	[illegible]	+	20	Tied to bead.
7	E., Exp. 2	12 mos.	[illegible]	+	33	Tied to bead.
8	M., Exp. 2	11 mos.	[illegible]	+	27	Tied to bead.
9	M., Exp. 3	11 mos.	[illegible]	+	38	Tied to bead.
10	Mart	14 mos.	Pneum. convalescence	+	27	Tied to bead.
11	M., Exp. 4	11 mos.	[illegible]	+	17½	Tied to bead.
12	B., Exp. 2	13 mos.	[illegible]	+	19¼	Tied to bead.
13	E., Exp. 3	12 mos.	[illegible]	+	26¾	Tied to bead.
14	Y., Exp. 3	12 mos.	[illegible]	+	62½	Tied to bead.
15	B., Exp. 3	13 mos.	[illegible]	+	20	Tied to bead.
16	Y., Exp. 4	12 mos.	[illegible]	+	20	Tied to bead.
17	M., Exp. 5	11 mos.	Gastroenteritis, chronic.	—	44	Tied to bead.
18	F.	15 mos.	Pneum. convalescence	+	53	Tied to bead.
19	G.	5 mos.	Well in with mother	+	19⅓	Tied to bead.
20	Mart, Exp. 2	14 mos.	Pneum. convalescence	+	19	3 pieces tied in bag.
21	B., Exp. 4	13 mos.	[illegible]	+	42	3 pieces tied in bag.
22	Y., Exp. 5	12 mos.	[illegible]	+	22½	3 pieces tied in bag.
23	G., Exp. 2	5 mos.	[illegible]	+	18	3 pieces tied in bag.
24	B., Exp. 5	13 mos.	Gastroenteritis, chronic.	—	18½	Catgut tied to bead.
25	B., Exp. 6	13 mos.	Gastroenteritis, chronic.	+	18½	
26	S.	10 wks.	Gastroenteritis, acute	+	19½	
27	G.	4 wks.	Well in with mother	—	20	
28	B.	5 mos.	Well in with mother	+	30¾	
29	K.	5 wks.	Well in with mother	+	28	
30	K., Exp. 2	5 wks.	Well in with mother	+	22	

Thirty experiments. Children ranging from 5 months to 12 years. + 27. — 3. One — case, healthy baby of 4 weeks. Other 2 cases occurred in children who at different times did digest catgut, viz.: M., 11 months, gastroenteritis, chronic, + + + + —. B., 13 months, gastroenteritis, chronic, + + + + — +. K., healthy baby of 5 weeks, digested + twice. (+ = digestion. p = partial digestion (at least half.) — = no digestion.)

Egg White.—Five experiments. Children ranging in age from 10 weeks to 3 years, complete digestion in every case.

Egg Yolk.—Three experiments. Children aged respectively 10 weeks, 9 months, 13 months, complete digestion in every case.

Catgut.—Thirty experiments. Children ranging in age from 5 months to 12 years; 27 showed complete digestion; 3 no digestion. Two of the negative cases occurred in children who at different times did digest catgut. It is noteworthy that catgut was digested completely on two occasions by a child of 5 weeks.

TABLE 7.

Sweetbread—Small pieces of fresh raw sweetbread placed in gauze bags Bag tied to the bead.

No	Name.	Age	Diagnosis.	Result.	Time in hrs.	Remarks.
1	R.	12 yrs.	Chorea	+	24¾	
2	B.	5 yrs.	Pneum. convalescence..	+	33¼	
3	Y.	12 mos.	Gastroenteritis, chronic.	p	15	
4	Y, Exp 2......	12 mos.	Gastroenteritis, chronic.	+	23	
5	M.	11 mos	Gastroenteritis, chronic.	+	20	
6	B.	13 mos.	Gastroenteritis, chronic.	+	19¾	
7	Mart	14 mos.	Pneum. convalescence..	+	19¼	
8	G	5 mos.	Well in with mother...	+	18½	
9	Geig	9 mos.	Gastroenteritis, chronic.	+	22¼	
10	L	12 mos.	Acute bronchitis......	—	8½	Very rapid passage.
11	B, Exp 2.... ..	13 mos	Gastroenteritis, chronic.	+	18¾	
12	B, Exp 3......	13 mos	Gastroenteritis, chronic.	+	25½	
13	S	10 wks.	Gastroenteritis, acute..	+	18	See special Sweet Bread Table.
14	S, Exp 2	10 wks.	Gastroenteritis, acute..	p	5½	See special Sweet Bread Table.
15	S, Exp 3	10 wks.		—	5	
16	Geig Exp 2 ..	9 mos		+	29	
17	S, Exp 4	10 wks		+	9¾	
18	Geig, Exp 3....	9 mos		+	13	
19	S, Exp 5... .	10 wks		+	16	
20	G.	4 wks		p	15	See special Sweet Bread Table.
21	Z	7½ mos.		p	19	
22	Z, Exp 2......	7½ mos		+	18	
23	G.	4 wks		+	20	
24	B.	5 mos.		+	19½	
25	R	8 dys	Well in with mother...	+	10½	
26	K.	5 wks	Well in with mother...	+	12½	
27	C.	23 dys	Well in with mother...	p	14½	See special Sweet Bread Table
28	C, Exp 2......	26 dys	Well in with mother...	p	22	See special Sweet Bread Table.

Twenty eight experiments Children ranging in age from 12 years to 8 days +20, p 6; —2. (See special sweetbread table and summary) (+ = digestion. p = partial digestion (at least half). — = no digestion)

TABLE 8

Sweetbread (Special Table).—Cases under 6 months of age, including several under 2 months.

No	Name	Age.	Diagnosis	Result.	Time in hrs	Remarks.
1	G	5 mos	Well in with mother...	+	18½	
2	S	10 wks	Gastroenteritis, acute..	+	18	
3	S, Exp 2 .. .	10 wks	Gastroenteritis, acute..	p	5½	Sweetbread substance not completely digested Microscopically, no nuclei to be found
4	S, Exp 3 . .	10 wks	Gastroenteritis, acute..	—	5	Sweetbread substance not digested No nuclei.
5	S, Exp 4 ..	10 wks.	Gastroenteritis, acute..	+	9¾	Complete digestion.
6	S, Exp 5 . ..	10 wks.	Gastroenteritis, acute..	+	16	Complete digestion
7	G	4 wks.	Well in with mother...	p	15	Sweetbread substance not completely digested No nuclei.
8	G, Exp 2 .	4 wks.	Well in with mother...	+	20	Complete digestion; raw beef and catgut given next day not digested
9	B.	5 mos	Well in with mother...	+	19½	Complete digestion.
10	R.	8 dys	Well in with mother...	+	10½	Complete digestion
11	K	5 wks	Well in with mother...	+	12½	Complete digestion
12	C	23 dys	Well in with mother...	p	14½	Sweetbread substance not completely digested No nuclei
13	C, Exp 2	26 dys.	Well in with mother. .	p	22	Sweetbread substance not completely digested No nuclei.

(+ = digestion p = partial digestion (at least half). — = no digestion.)

TABLE 9.

Potato—Boiled either 2 minutes, 5 minutes or 10 minutes In cases where digestion was considered complete, only the peel was left. Potato either tied directly to bead or placed in gauze bag which was tied to bead

No	Name	Age.	Diagnosis.	Result.	Time in hrs.	Time boiled.
1	G	5 mos	Well in with mother...	—	24	2 *min*
2	W	12 yrs	Enuresis	+	33	2 *min*
3	K	5 mos.	Gastroenteritis, chronic	—	35	2 min
4	W.	11 yrs.	Aortic insufficiency. .	p	26	2 *min*
5	R.	12 yrs	Chorea	+	46	2 min
6	Y.	12 mos.	Gastroenteritis, chronic	+	32	2 min
7	M	11 mos.	Gastroenteritis, chronic	—	22½	2 min
8	E	12 mos.	Gastroenteritis, chronic	—	22½	2 min.
9	B	13 mos.	Gastroenteritis, chronic	—	32½	2 min
10	Y Exp 2	12 mos.	Gastroenteritis, chronic,	—	20	2 min
11	E Exp 2	12 mos.	[illegible]nic	—	33	2 min
12	M Exp 2 .. .	11 mos	[illegible]nic	—	27	2 min
13	M Exp 3	11 mos.	[illegible]nic	p	38	2 min
14	Mart	14 mos		p	27	2 *min*
15	M Exp 4 . ..	11 mos	[illegible]nic	—	17½	2 min
16	B Exp 2 . .	13 mos	[illegible]nic	—	19¼	2 *min*
17	E Exp 3	12 mos	Gastroenteritis, chronic	—	26¼	2 *min.*
18	Y. Exp 3.. ...	12 mos	Gastroenteritis, chronic	—	62½	2 min.
19	B Exp 3	13 mos	Gastroenteritis, chronic	—	20	10 *min*
20	M Exp 5......	11 mos.	Gastroenteritis, chronic	+	44	10 min
21	F	15 mos	Pneumonia, convales...	+	53	10 min
22	G	5 mos	Well in with mother...	p	19½	10 min
23	B Exp 4	13 mos	Gastroenteritis, chronic	—	18	10 min
24	B Exp 5	13 mos.	Gastroenteritis, otitis	—	18	10 min
25	Y Exp 4	12 mos.	Gastroenteritis, acute .	p	42½	10 min
26	B Exp 6	13 mos.	Gastroenteritis, Chronic	p	18½	10 *min*
27	S	10 wks	Gastroenteritis, acute	—	14½	5 min.

Twenty seven experiments Children ranging in age from 5 months to 12 years
+5 = 12 years 12 years, 15 months 12 months, 11 *months*
p 6 = 11 years, 14 months 13 months, 12 months, 11 months, 5 months
—16 Partial digestion in 5 months' healthy baby, potato boiled 10 minutes
Cases in which experiment was repeated in same *child* B, 13 months, gastroenteritis, chronic, — — — — — — p (10 min potato).
M, 11 months, gastroenteritis, chronic, — — p — + (last with 10 min potato)
Y, 12 months, gastroenteritis, chronic, + — — — p.
E, 12 months, gastroenteritis, otitis, — — — —. (+ = digestion p = partial digestion (at least half). — = *no digestion*)

Sweetbread.—The sweetbread experiments numbered 28. Twenty showed complete digestion. 6 partial and 2 no digestion. One of the negative cases occurred in a 12 months old baby and the bead passed in 8½ hours, so that the very rapid passage might easily explain the lack of digestion. The other negative case occurred in a child of 10 weeks, who on four other occasions did digest the sweetbread. And even on the occasion when the sweetbread substance was not digested. the nuclei were completely digested. In order to test nuclear digestion.

in other words, to study the activity of trypsin at a very early period of life, a special series of sweetbread experiments was undertaken in children of very young age. In this series there were 13 experiments, the children ranging in age from 5 months to 8 days. In these cases microscopic smears were made after the sweetbread beads had passed. The bags were washed, then opened, smears made of the residue, and the smears stained with methylene blue. In none of the cases were any nuclei to be found, even when there was some sweetbread residue left. Inasmuch as it is now settled that nuclear digestion as such occurs only as the result of pancreatic activity (trypsin) it seems proved that the pancreas must be functionally active from birth. It is of special interest to note that in a child of 8 days, there should have been complete digestion of the sweetbread.

Potato.—The series included 27 experiments. All of the children, except three, were less than 16 months old. There was complete digestion 5 times, partial digestion 6 times, and no digestion in 16 cases. This comparative inability to digest the starches was, of course, to have been expected and was in direct line with the potato experiments in the older children.

This series of experiments was undertaken primarily to test the method, more especially to try the method for infants. Sweeping conclusions are, of course, quite out of place, as the result of what is after all a limited number of observations. It would seem, however, that the method bids fair to be an addition of value as a means of studying digestive processes in infancy and early childhood. It is, at least, possible that by this method some light may be shed on the physiology of the digestive processes in infancy. The results of the experiments with sweetbread, with special reference to nuclear digestion and the proof thereby afforded of pancreatic activity from birth, are certainly suggestive. A profitable field of inquiry may thus be opened. On the other hand, from the clinical standpoint, the test may prove valuable in infancy. In a given case of malassimilation the test may afford an index as to the special form of food stuffs whose digestion is imperfect and a way thus be afforded of determining a rational alimentary therapy for the individual child.

The report here offered is to be considered as a preliminary study merely, and it is hoped that special phases of the many questions of digestion in infancy may, by this method, now be studied in detail.

4 West Seventh Street.

ABSTRACT OF DISCUSSION.

Dr. J. P. Sedgwick, Minneapolis: We know that there is a difference in the digestion of mutton fat and the fat which the infant gets normally, that is, emulsified fat. It has been shown that the digestion of fat in the stomach does not occur on using this very fat which the doctor has used, and it gave us the impression for many years that fat is not digested in the stomach. The later work of Volhard with emulsified fat shows that it can be digested in the stomach. He worked with an emulsified fat of the egg yolk. Dr. Friedlander's own work shows us the difference between the digestive power of the infant on the mutton fat and the emulsified fat of the egg yolk which he found, I believe, digested in practically every case. Therefore, it would seem that in the routine work the yolk fat would be more applicable than the mutton tallow which has been suggested.

Dr. A. W. Fairbanks, Boston: There has been in some parts of the south a tendency to use potato in the feeding of infants. I think that the results of Dr. Friedlander's experiments should effectually and permanently dispose of any such idea.

Dr. Alfred Friedlander, Cincinnati: These experiments were not offered as conclusive. I wanted to know whether it would be possible to employ this method in feeding infants. As to the criticism in regard to mutton fat, it is thoroughly justified. I simply explain that these results are not to be considered as proof of anything definite as to digestibility of fat. Special detailed studies concerning fat and starch digestion are now to be taken up, inasmuch as it is proved that the method is applicable to and valuable for the study of infantile digestion.

PHYSIOLOGIC ASSAY OF NITROGLYCERIN TABLETS, DIGITALIN TABLETS AND FLUIDEXTRACT OF ERGOT.*

CHARLES WALLIS EDMUNDS, M.D.
Professor of Materia Medica and Therapeutics in the University of Michigan.
AND
GEORGE B. ROTH, A.B.
ANN ARBOR, MICH.

Last year in the pharmacologic laboratory of the University of Michigan we undertook an examination of various preparations of such drugs as were suitable for physiologic assay. The object of the examination was to ascertain the relative strength of such medicines when prepared by different manufacturers, some of whom assayed their products physiologically while others relied entirely for an active product on their efforts to purchase the best crude drugs on the market.

The examinations naturally began with the heart tonics, digitalis and strophanthus, because of their great importance and also because there exists a good method by which they can be assayed. The results[1] showed that various preparations of the tincture of digitalis varied in strength in the ratio of 1 to 4, that is, some were one-quarter the strength of others, with still others representing all intermediate gradations, while tinctures of strophanthus showed practically the same variations. Recently other drugs have been examined in the laboratory, and those especially taken up were nitroglycerin tablets, digitalin tablets and ergot.

Nitroglycerin tablets were examined both in respect to the relative strengths of different makes and also with regard to the effect of age on them. These were especially selected for examination as there exists at the present time a widespread feeling of distrust regarding the efficiency of these tablets and the length of time that they will retain their medicinal properties. With this object in view we obtained seventeen different preparations of nitroglycerin hypodermic and compressed tablets, representing seven of the leading manufacturing drug houses in the country. These were examined in February and again in May, 1908.

This period of four months we realize is entirely too short to allow any definite conclusions to be drawn as to the effect of age on the preparations, but through the kindness of the individual manufacturers we have been able to obtain from them the date of manufacture of all these specimens showing that some of the tablets were made as long ago as 1901.

The method of examination we adopted was to observe the effect on the blood pressure of a rabbit when the drug was injected into the circulation in very small doses. This method, while perhaps not strictly accurate, gives a very fair idea as to whether or not the drug is active and its approximate strength. The rabbit is prepared as for any blood-pressure experiment. After complete anesthesia is produced by the administration of paraldehyd a cannula is inserted in the jugular vein to permit of the injection of the drug, and in the carotid artery is another cannula tied which is connected with the ordinary mercury manometer, the connecting system of tubing being filled with sodium sulphate solution to prevent coagulation of the blood.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] Edmunds: The Journal A. M. A., May 25, 1907, p. 1744.

RELATIVE STRENGTHS OF DIFFERENT MAKES.

By a series of trials we found that minute doses were sufficient to produce a definite fall in blood pressure. We finally adopted 1/4,000 grain and 1/2,000 grain doses, using the one as a check on the other. To obtain these amounts a 1/100 grain tablet of nitroglycerin was dissolved in 40 c.c. of physiologic salt solution; 1 c.c. of this solution with 1 c.c. of salt solution represented 1/4,000 grain of nitroglycerin, while 2 c.c. of the solution contained 1/2,000 grain. In this way the same amount of fluid was injected at each trial and so far as possible the injections were made at the same rate.

Each preparation was assayed on several rabbits until some sort of uniformity was obtained as to the percentage of fall in pressure which it would produce when given in the doses named. These percentages were then averaged and the results are given in the following table, in which the different preparations are arranged according to age as determined by the dates furnished by the makers:

Dose of Nitroglycerin and Percentage Fall in Blood Pressure.

	Date of Manufacture.	1/4000 gr.	1/2000 gr.
1.	December, 1901.......	27 per cent.	32 per cent.
2.	December, 1901......	28 per cent.	36 per cent.
3.	——— 1905?.........	17 per cent.	22 per cent.
4.	——— 1905?.........	22 per cent.	32 per cent.
5.	October, 1905..........	20 per cent.	28 per cent.
6.	January, 1906..........	34 per cent.	45 per cent.
7.	April, 1906............	19 per cent.	28 per cent.
8.	September, 1906.......	31 per cent.	53 per cent.
9.	March, 1907...........	35 per cent.	42 per cent.
10.	April, 1907............	19 per cent.	31 per cent.
11.	April, 1907............	19 per cent.	29 per cent.
12.	May, 1907............	28 per cent.	40 per cent.
13.	July, 1907............	29 per cent.	36 per cent.
14.	August, 1907.........	23 per cent.	30 per cent.
15.	September, 1907.......	18 per cent.	27 per cent.
16.	October, 1907.........	26 per cent.	31 per cent.
17.	November, 1907.......	29 per cent.	36 per cent.

This table shows that the so-called 1/100 grain tablet when injected in 1/4,000 grain doses lowers the blood pressure on an average about 25 per cent. and in 1/2,000 grain doses about 34 per cent. Some of the preparations, however, show rather wide variations, as, for instance, Nos. 3, 6 and 9, but, on the other hand, with a certain number the results are uniform. This uniformity is well shown in four samples made by one firm. These gave percentages as follows:

No.	1/4000 gr.	1/2000 gr.
5..............	20 per cent.	28 per cent.
7..............	19 per cent.	28 per cent.
10..............	19 per cent.	31 per cent.
14..............	23 per cent.	30 per cent.

It is true that these are all weaker than the average.

To get some clearer ideas as to what these different percentages indicate in regard to the relative strength further dilutions of the solution to be tested were made, and these in one of the experiments gave the following percentage results:

1/16,000 gr.	1/8,000 gr.	1/4,000 gr.	1/2,000 gr.
11 per cent.	14 per cent.	20 per cent.	27 per cent.

In this experiment two-thirds of the total number of tablets tested varied only from 2 to 4 per cent. from these figures when given in the corresponding doses. One, however, gave a fall of only 10 per cent. from 1/4,000 grain dose, and 12 per cent. from 1/2,000 grain. This would indicate that this preparation was certainly less than one-quarter of the strength of the solution against which it was measured, which in turn itself was not up to the average, giving 20 per cent. and 27 per cent. drops in pressure from the 1/4,000 grain and 1/2,000 grain, whereas the average, as mentioned earlier, was 25 per cent. and 34 per cent., respectively.

Also in this experiment there was one preparation which, administered in 1/2,000 grain dose, gave a fall of 37 per cent. in the pressure, indicating much greater strength. This same specimen administered to another animal gave the following results:

1/16,000 gr.	1/8,000 gr.	1/4,000 gr.	1/2,000 gr.
20 per cent.	25 per cent.	29 per cent.	38 per cent.

These percentages would appear to indicate a very much stronger tablet, in fact, from two to four times as strong as the first tablet when judged by corresponding dilutions. But it is very hard to carry over results in one experiment to another for an exact comparison, as the animals differ somewhat in susceptibility to the drug, one giving a uniformly greater reaction than another. But comparing the various tests on the same animal usually shows that the individual specimen which produced the greatest depression in one test also gave the best result in a second animal and *vice versa.*

A study of all the results we have obtained in the various animals, and of the averages which we give in the table, leads us to conclude that the nitroglycerin tablets hardly deserve the bad reputation which has been given them. It is true they vary considerably in strength, but of the seventeen specimens examined we think only two (Nos. 3 and 15) should be classed as distinctly poor. Next to these two come the great majority of the preparations, and a comparison of these with the percentage attained by giving the drug in the more minute doses of 1/16,000 and 1/8,000 grain indicates that they vary even as much as 100 per cent., some being half the strength of others. Two samples (Nos. 6 and 9) were considerably stronger than the average. Our results certainly confirm the view very generally held as to the variability in the strength of these tablets, but show that the opinion frequently expressed that these tablets are worthless is incorrect.

EFFECT OF AGE ON NITROGLYCERIN TABLETS.

We have had very largely to base our conclusions as to the effect of age on the tablets on the dates furnished us by the makers. Taking the table given earlier, we have grouped the tablets by the years in which they were made and averaged the results.

Effect of Age on Nitroglycerin Tablets.

Date of manufacture.	No. of specimens.	1/4,000 gr.	1/2,000 gr.
1901	2	28 per cent.	34 per cent.
1905	2	20 per cent.	27 per cent.
1906	3	28 per cent.	42 per cent.
1907, *1st* 6 *mos.*	4	25 per cent.	36 per cent.
1907, 2d 6 mos.	5	25 per cent.	32 per cent.

This table would indicate that there was no marked deterioration in the tablets due to their age, a conclusion which is contrary to the general opinion. As a control to the 1901 specimens (which were both made by one firm) we tested some tablets which one of us had had in his possession since July, 1902, and during this time they had been kept in a cool dark place in a tightly-corked bottle. One of these tablets was as active as any preparation we tested, but several others which we used proved to be absolutely inert. Leaving, then, the two 1901 specimens in the list out of consideration, the table still shows that the 1905 tablets were weaker than those made more recently, but the 1906 specimens show up very well.

Another check as to the effect of time on them was obtained by comparing the results of the experiments carried out in February, 1908, with those performed in May. An average of all the readings obtained during these two series of experiments is as follows:

	1/4,000 gr.	1/2,000 gr.
February, 1908	23 per cent.	36 per cent.
May, 1908	25 per cent.	32 per cent.

The figures are so nearly alike that they may be said to balance one another. Any conclusion based on these findings must be drawn very cautiously, but it would seem perfectly safe to say that tablets which are not more than two years old have lost practically none of their strength, but that if they are older than that they have probably deteriorated to a greater or less extent.

DIGITALIN TABLETS.

Another drug which in tablet form is very commonly employed in practice is the so-called digitalin. Under this name Merck lists three preparations: the "German," which is said to consist of digitalin (Kiliani), digitonin and digitalein; "French," an amorphous glucosid, which is practically insoluble in water; and "crystallized" digitalin, which is without action on the heart. The preparation used in these tablets is probably the "German," as the tablets are freely soluble in water. A hypodermic preparation of the digitalis group would be of very great use if it could be relied on in cases of emergency in which the preparation of the crude drug could not be used. In many cases in which we have used tablets, however, these have seemed to have so little effect that we secured a number of 1/100 grain and 1/50 grain tablets and assayed them. The method we employed was to test their effect on the frog's heart in a similar manner to that described in our paper on digitalis assay.[1]

The following doses indicate the amount necessary to bring the heart of a 20 gm. frog to a systolic standstill in one hour:

Five specimens took 1/20 grain (five 1/100 gr. tablets).
Four specimens took 1/25 grain (four 1/100 gr. tablets).
One specimen took 1/30 grain.

These figures become more significant when we consider that in our assay of the tincture of digitalis we found that an average preparation would stop the frog's heart in systole in one hour when administered in from 0.15 c.c. to 0.20 c.c. The immediate conclusion to be drawn is that digitalin is administered to man in entirely too minute doses. If on the frog 1/25 grain of digitalin equals 0.2 c.c. tincture of digitalis, then the corresponding dose for man should be 5/25 grain (1/5 gr.) instead of 1/100 or 1/50 grain.

This seemed such a very large dose compared with that in common use that we decided to test this ratio on dogs. We, therefore, prepared dogs in the ordinary way to take tracings from a heart with the myocardiograph and into the first we injected four 1/100 grain digitalin tablets which had been dissolved in salt solution. An analysis of the tracing showed an increase in the strength of the auricle which was quite marked while the ventricle was only very slightly affected. The heart rate was not lessened but increased twenty-five beats a minute. Into another dog of about the same size and prepared in exactly the same manner we injected 0.2 c.c. tincture of digitalis, and the tracings showed a very distinct increase in the strength of the auricle while the ventricle showed no change. The rate was slowed about ten beats to the minute.

A comparison of the results obtained in the two animals showed there is very little difference between the two forms of the drug when given in the corresponding doses determined by their relative effect on the frog. *The balance is in favor of the digitalin in that it did show a very slight effect on the ventricular systole,* while as regards the rate the tincture would have the preference. It is to be expected that the results would not correspond exactly, as in one case an approximately pure principle was injected while in the second a tincture was used.

This examination indicates that one reason at least why *digitalin fails in a large number of cases* is because it is not used in sufficiently large doses. For man the dose of digitalin to correspond with the usual 1 c.c. of the tincture would be somewhere about 1/5 grain instead of 1/100 grain. For the sake of safety we might cut this dose in half and say it should be 1/10 grain, which would still leave a great difference between the two amounts. The fact that digitalin should be given *in such large doses is by no means new.* Indeed, Merck gives the dose as from 1/10 to 1/2 grain. Among others who have recommended the larger doses may be mentioned Beates,[2] who prescribes 1/4 grain doses and in emergency 1/2 grain is given every two hours for a few doses. Administering it for months with occasional intermissions, he never saw harmful results to follow. Still more recently Arnold and Wood[3] call attention to the fact that 1/4 grain doses of digitalin are about equivalent to 1 c.c. of a tincture of digitalis (U. S. P., 1890, 15 per cent.). We conclude, therefore, that while *the digitalin tablets are fairly uniform in strength, they are made entirely too weak for ordinary use in practice.*

ERGOT.

We next took up the examination of a number of ergot preparations for the assay of which there exist several methods. The oldest, and that most generally used, is to ascertain the minimum amount of the drug which will cause distinct blackening of the cock's comb.[4] A second method, based on the recent work of Barger and Dale, consists in finding how much ergot it takes to transform the usual blood-pressure increase produced by adrenalin into a fall in pressure. This is the so-called "vasomotor reversal" method.

A third method, and *one recommended by Cushny and also by Kehrer, is to test the effect on the uterus itself.* The movements of the organ are recorded in the usual way by attaching levers to it and connecting them to a writing point arranged so as to register the contractions on the surface of a blackened drum. The animal is kept submerged in a warm saline bath during the course of experiment. Either cats or rabbits may be employed for the purpose, but we prefer the former.

By injecting varying doses of a standard preparation and of the unknown solution a very accurate estimate can be made as to their relative strengths by noting the size of the contractions produced by both solutions. In most of the animals 0.2 c.c. or 0.3 c.c. of a fluid extract will cause a distinct contraction. It was this uterine method which we adopted as being the most logical and satisfactory one, but no doubt each method will give good results in the hands of operators accustomed to their use.

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[1] It may not be out of place to call attention to the fact, which is not generally known, that this method of assaying digitalis preparations by their action from the frog's heart was first carried out in the pharmacologic laboratory of the University of Michigan under the direction and at the suggestion of Prof. A. R. Cushny of London, who at that time was Professor of Materia Medica and Therapeutics in Michigan University.

[2] The Journal A. M. A., 1897, xxviii, p. 1209.

[3] Am. Jour. Med. Sci., 1900, cxx, p. 165.

[4] Houghton: National Dispensatory, 1905, p. 1728.

We assayed all our preparations against one of the fluid extracts which we have marked 1 in the table given below. In this table we have arranged the different specimens, giving the amounts which would be necessary to administer to produce the same effects as 1 c.c. of our standard preparation.

1	Standard } same manufacturer	1.00 c. c.	Physiol. assayed.
2		1.00 c. c.	Physiol. assayed.
3		1.00 c. c.	Not assayed.
4		1.25 c. c.	Physiol. assayed.
5		1.00 c. c.	?
6		1.00 c. c.	Not assayed.
7	same manufacturer	2.00 c. c.	Not assayed.
8		(see below)	Not assayed.
9		(see below)	Not assayed.
10	Hypodermic preparations } same manufacturer	2.50 c. c.	Physiol. assayed.
11		2.50 c. c.	Physiol. assayed.

Comparing these figures shows that five were practically alike; given in equal size doses they always produced corresponding results. One (No. 4) was about four-fifths of the strength of the others. Four (Nos. 6, 7, 8 and 9) are especially important, being made by one firm which makes no physiologic assay of their products. Of this group No. 6 gave good results; No. 7 required 0.5 c.c. to give a contraction equally strong to that produced by 0.25 of our standard. No. 8 we found to be practically inactive when given in doses up as high as 1 c.c. and 2 c.c., although our control was giving good results with 0.3 and 0.4 c.c. No. 9 when examined in February, 1908, gave contractions about equally strong as No. 1, but examined again in May proved inactive in 0.5 c.c. and 1 c.c. doses. Apparently it had deteriorated in the meantime.

Nos. 10 and 11, prepared for hypodermic use, were diluted with salt solution to fluid extract strength and then injected. They proved very weak, requiring 1 c.c. to give as good contractions as 0.4 c.c. of our control.

Referring again to Nos. 6, 7 and 8, it is interesting to note that they were made by the same firm that made the four specimens of tincture of digitalis one of us reported on last spring. These tinctures varied from one another as regards strength in the ratio of 1 to 4. At that time the firm had announced their intention to start physiologic assay work, but since then they have apparently experienced a change of mind, as they "do not think it right to control the effect of their medicines on man by experiments on the lower animals." After a survey of the varying strengths of their preparations comment is entirely superfluous.

In conclusion we think that no stronger argument could be brought forward as illustrating the necessity of the physiologic assay of these drugs than the results obtained with these eight preparations of ergot and digitalis.

ABSTRACT OF DISCUSSION.

DR. E. M. HOUGHTON, Detroit: I do not understand Dr. Edmunds' method of figuring the strength of the nitroglycerin. In my work on the assay of adrenalin and various other drugs by physiologic methods, I have found that it was always desirable to compare the unknown with the known under the same conditions. Was this done with the nitroglycerin preparations? In the routine assay of adrenalin and in conducting a few blood pressure experiments with nitroglycerin, I have found it desirable to determine the quantity of unknown which would produce the same rise or fall in blood pressure as a definite amount of the known, and from such data figure directly the percentage strength of the unknown required to produce the same physiologic activity as a definite amount of the known.

The method of testing digitalin tablets employed by Dr. Edmunds is the same that I have been using for the last ten or twelve years for the heart tonics, except that I have made the death of the frog the point for reading results, while Dr. Edmunds has taken the condition of the heart one hour after the injection of the drug as the time for making the reading. It has seemed to me that it was much better to adopt death as the final criterion, as is done in the standard test of antitoxins, etc., on guinea-pigs, than to attempt to read results from the physiologic conditions manifested by the animal. I believe that more accurate results may be obtained. We have found that with my method we can assay within 10 per cent. without great difficulty as a rule. Of course, there are difficulties; the frogs at certain seasons of the year vary more than under ordinary conditions. The Germanic digitalin as it appears on the market I have found, particularly during the last few years, to assay much more uniformly than it did prior to that time. I think that Dr. Edmunds is entirely correct relative to the dosage of digitalin.

I have recently had a number of experiments carried on to determine the value of the several methods that have been proposed for the assay of ergot. The reversal of blood pressure, by using adrenalin, has not worked satisfactorily on dogs. In fact, it is only in occasional dogs that you get such reversal. We have not tried rabbits or cats, but on dogs the results were quite unsatisfactory. Ergot is perhaps the most difficult of all the drugs that I have tried to assay by physiologic means. One must, by using the test of blackening of the cock's comb, be extremely careful of the fowls on which the experiments are done; otherwise errors will be made and no doubt different workers will get variable results.

PROFESSOR W. A. PUCKNER, Chicago: I believe that the profession does not realize the amount of work that certain manufacturing houses have done in this respect and that they have not received sufficient credit for their work. The manufacturing houses have been the pioneers in the standardization of drugs, and many firms have done much work which should receive more recognition from the members of the American Medical Association than it has. They have standardized many drugs and have received little return for it—not as much, I fear, as some manufacturers who have expended a like amount of money for printer's ink. Recently I examined a certain preparation and found one firm's product to contain only about 32 per cent. of what it was said to contain. I bought the second lot from the same firm and found it all right. I bought the third lot and it was all right. I then asked the manufacturer to explain, and I received the reply that apparently some mistake had been made in manufacturing the first lot. It is quite possible that these experiments will show that some of these drugs are deficient at times, though the house does not make a practice of supplying worthless drugs. But any one who sells medicine will have to take chances of having products shown up if they are not up to standard. When Professor Edmunds' paper is published I hope that it will contain the names of the manufacturers of drugs that were reliable and of those that were not. The paper will lose much of its value if the names of the manufacturers concerned are not inserted. In the laboratory of the American Medical Association some chemical examinations of drugs have been made, and the fact that not only the quality of products, but also their source, is published will make manufacturers more careful, more so than if only the statement that A's product is good and B's product is not good were published. On the whole, the result of Professor Edmunds' investigation shows that the drugs are fairly good. I am especially glad to see the nitroglycerin controversy ended. It seemed hardly possible that the statement going around a year or two ago, that all nitroglycerin tablets were inert, could be correct. I did not take much stock in it at the time.

Dr. Edmunds' work shows that nitroglycerin tablets are of fairly good quality.

How many fluidextracts are there that in ten years do not appreciably deteriorate? The fluidextract you buy is likely to be 10 years old unless you take precautions. There comes in the objection to the use of ready-made preparations of drugs. The preparations themselves will no doubt be found to deteriorate more than the drug itself. Shall manufacturers finally be obliged to put a date mark on each drug? I think C. E. Vanderkleed has shown that digitalis fluidextracts deteriorate 10 per cent. per year. That is a relatively small deterioration, but I am quite sure there are many preparations of digitalis that will very appreciably deteriorate with time.

Dr. M. Clayton Thrush, Philadelphia, Pa.: I think that this subject is one of most practical importance, as it teaches forcibly four important points: First, that manufacturing drug establishments, whether large wholesale houses or reputable retail pharmacists,should use—especially in all drugs that contain glucosidal or alkaloidal principles—only assayed drugs. In other words, only drugs which come up to the pharmacopeial requirements of a definite strength. The second point it teaches is always to use drugs from reliable houses. Unless Dr. Edmunds gives the names of the houses from which he obtained the drugs referred to, the paper will not be of near the value it would otherwise be to practitioners. It is important to know which houses do put out reputable preparations. Third, these investigations prove that some drug houses use drugs which are absolutely worthless. How do you explain that? Those of you who have been in the drug business—and I have been—know that you can get the same drug in qualities worth 20 cents, 30 cents or 40 cents a pound—any price you want—from wholesale druggists; and the strength varies often according to the cost. Therefore, if pharmacists buy drugs of lower cost the quality will be lower. I think that the majority of pharmacists put out reliable preparations. Unfortunately, financial considerations at times come into play. Take ergot, for example; from no drug is it more difficult to isolate the various active constituents which readily disintegrate; and after extraction they are prone to deterioration. If your order goes to some druggist who puts up only two prescriptions a day and buys enough stock for two years, you do not get the results you would if the ergot was fresh and up to date. This explains why some men have pessimistic views in regard to certain drugs. Fourth, the drug, even from the reputable houses and with their best efforts, will vary according to the season of the year the drug is collected, etc. I know that Dr. Beates frequently uses as high as one grain of digitalin at a dose, and, furthermore, that he is frequently called up by pharmacists wanting to know whether he is not using too large a dose. In using digitalin we do not, as a rule, give a large enough dose to get effects. We now know that the equivalent part is 1/5 grain, instead of 1/40 or 1/50, and you can readily see that from ½ grain up to a grain is necessary to produce the desired effect. The digitalin referred to is marketed as Merck's "Germanic pure."

Dr. A. S. von Mansfelde, Ashland, Neb.: We are told in The Journal of the American Medical Association that our Council on Pharmacy and Chemistry, for which I have the highest admiration, have examined a great number of drugs and that they fall into three categories: One category is absolute fraud, on which the Council speaks in no uncertain language; it is enjoyable to read. The other consists of tentatively accepted preparations; and then, unless I am mistaken, a great number which have been examined of which we know nothing. I am in the position of censor of the Nebraska State Medical Association of the advertisements that go into our state journal. I have endeavored very, very strenuously to inform myself and I am still very ignorant. The point has been exceedingly well taken that whenever a paper is read, on preparations that are below par, the author should have the courage of his convictions and say what is not good. Just look at it; we poor men in general practice are called in to a case of uterine hemorrhage, for example. We prescribe the drug we think will check it; we get a poor quality and let the woman pay the price of the experiment. Here is the matter in a nutshell: "Dear Doctor: I am informed you are very partial to Squibb's preparations." "You are correctly informed." "I want to assure you that our preparations are quite as reliable." "How can I prove this?" "Why, experiment with them," was the answer. I have neither time nor patience with that kind of performance. I learned the drug business more than forty years ago when it was necessary for me to make nearly every preparation in the Pharmacopeia myself, and in consequence here stands an old man who never prescribes a proprietary preparation. What is more, I will not prescribe even pills and tablets made elsewhere, and if I can not write a prescription for a pill or tablet and have my druggist put it up I am going to stop practicing medicine!

Professor W. A. Puckner, Chicago: The Council has so far chiefly taken up those preparations which have been voluntarily submitted by the manufacturers. I believe, however, that out of one thousand of the proprietary preparations now on the market which have not been submitted to the Council by their promoters nine hundred and ninety-nine could not be admitted, because they are in conflict with the rules of the Council. The Council repeatedly has discussed the desirability of publishing, besides a list of "accepted articles," also a list of all articles which have been rejected. It has always come to the conclusion that in the end more will be accomplished if only the most objectionable products are exposed. A great many products considered by the Council and rejected are being modified and corrected; when the reform is complete they will be accepted by the Council. This plan of action has, to a large extent, secured for the Council the cooperation of manufacturers, and I am certain has been to the best interest of the profession.

Dr. G. H. Hoxie, Kansas City, Mo.: Is there the same rate of deterioration in the sealed packages of ergot (e. g., those intended for hypodermic use) as in the samples mentioned by Dr. Edmunds? I endorse what has been said as to the importance of giving the names of the manufacturers of the samples tested. These discussions and reports are practically useless to the medical profession unless the investigators have the confidence necessary to tell whose and what products they are reporting on.

Dr. F. E. Stewart, Philadelphia, Pa.: The time has come when the scientific work done by manufacturing houses should be given due credit. Furthermore, it is important for those who are doing scientific work on the outside to consult with those who are doing scientific work in the laboratories of the manufacturing houses. I have known of several instances in which such cooperation has proved of mutual advantage. This especially applies to cooperation between the Council on Pharmacy and Chemistry and the manufacturers. If we could have more such cooperation between the Council and manufacturing houses it would be a good thing. As to the assaying of drugs—that is, the buying of assayed drugs and making them into preparations, claiming such preparations to be assayed—unless the finished product is assayed the claim is unwarranted. No manufacturer I know of would allow a fluidextract to go on the market until the finished preparation itself had been assayed to see whether the process of percolation had been complete. It is not safe to assume that the finished product conforms to the pharmacopeial standard because it is prepared from an assayed drug. The personal equation must be taken into account. One pharmacist is more skilful than another in extracting the drug by percolation, and the finished product will vary accordingly.

Dr. Torald Sollmann, Cleveland, Ohio: I may be misinformed, but I think that the name "digitalin" is applied to several very different preparations. Some of these have different toxicity, and in advocating large doses of digitalin which may be all right for one of these substances there is a good deal of danger if another should be dispensed. In such cases it seems necessary to specify the brand until we have a definite or accepted standard.

Dr. C. S. N. Hallberg, Chicago: The uniformity of medicines, of course, is the idea of the Pharmacopeia; not only to have purity and strength, but uniformity. Physicians must remember, however, that there are a great many drugs, particularly of glucosidal character, which vary considerably not only in their constituents according to the season and method of collection and so on, but also in that the constituents are not well defined. There are very few, comparatively speaking, glucosidal drugs that a chemist can analyze and state the composition of as he can of alkaloidal drugs or most other substances; and you will remember that to-day these very largely used drugs, digitalis and ergot, have no official standard simply because the Committee of Revision, six or seven years ago, were not able to fix standards for these drugs. There is no necessity for the physician to be particularly concerned over the lack of uniformity or variation in potency in the principles of these drugs if he uses the drug itself. For instance, in digitalis the only safe, satisfactory agent as a cardiac is the tincture, provided it is made from the finest quality of digitalis. Now, such can be had. Allen's English digitalis leaves can be had by any pharmacist if he will pay $1.25 a pound, instead of 20 cents a pound. But what difference does it make what the price is? It is one of the things that, when a physician wants, he wants badly; he must have it, and the pharmacist makes just as much on the drug of the second-year growth as he would on the cheap kind. If diuretic effects are desired the infusion is preferable. Dr. Beates, in this Section a few years ago, stated that he gave digitalinum Germanicum in doses of 1/16 grain. Now we are told he is giving ⅛. Next year perhaps he will be giving it in 2 or 5 grains, because it does not represent the properties of digitalis. And the same is true of ergot. There is no preparation to-day that takes the place of the well-made fluidextract of ergot such as Squibb's. There was no question of such fluidextract of ergot being efficacious, because every grain of ergot was picked out by hand. Many of you will remember the long tables around which women were seated picking over every grain. That fluidextract was allowed to stand three to six months before being bottled, and this gave it that peculiar ethereal odor which made it agreeable and serviceable. There are many constituents in plants beside the particular active principles. We have seen in this country active principles run the gamut from the resinoids in Cincinnati, where the pure principle (?) and whatever precipitated was collected and labeled with "in" and called an eclectic alkaloid or "concentration," while the real active principle often went down the sewer. We have the alkaloids from Ravenswood and other centers for exploiting the medical profession with active principles where they even discover active principles in magnesium sulphate or *Cactus grandiflora!* When the physician is in doubt about active principles let him find an honest, skilful pharmacist who will buy a quality of drugs which will insure their giving the desired results when made into first-class fluidextracts or tinctures. The less he believes that everything that comes from Germany is better than that produced in any other country the better for him.

Dr. C. W. Edmunds, Ann Arbor, Mich.: I tried the vasomotor reversal method on several cats, but did not find it very successful; in some even as large amounts as 30 c.c. of a fluidextract of ergot gave no distinct reversal, while a subsequent injection of 1 mg. ergotoxin (kindly sent me by Dr. Dale) gave the desired result. This phenomenon is shown much better on cats than dogs. I tried the cock's-comb method twice, but did not carry it further, as I got blackening of the comb from one specimen which proved inert when judged by the action on the uterus. As to the agreement of these preparations with the pharmacopeial standard, that is just where the trouble is—there is no such standard. Each manufacturer may assay his own preparation, but only to his own standard, which differs from other manufacturers' standards. So while we may be getting standardized preparations all the time they need not necessarily be alike unless they happen to come from one maker. What is needed is a national standard to which all manufacturers will agree. I can not say whether the sealed tubes of ergot deteriorate or not. Both specimens I examined were made by one maker and were alike but very weak. As to the original strength I can not say. I have assayed a tincture made from Allen's digitalis leaves and found that it was just about the same strength as the tinctures made from leaves obtained elsewhere.

I decided for certain manifest reasons that it perhaps was not best to publish the names of the makers of the various preparations which I examined. I believe, however, that such publicity will come in time, and when it does it will have a wholesome effect and will be but a matter of justice to those firms who are putting out reliable products.

OSTEOPATHIC VERSUS DRUG TREATMENT.[*]

M. CLAYTON THRUSH, Ph.M., M.D.

PHILADELPHIA.

> A concise exposition of the important principles of osteopathy and their relation to scientific medicine:
>
> "The most experienced surgeon knows nothing of anatomy in comparison with the educated osteopath."
>
> "The osteopath is a physician and surgeon in the best sense of the term, thoroughly conversant with the anatomy, physiology and pathology of the body."—*The A. B. C. of Osteopathy, 1907.*

During recent years a number of cults or sects have sprung into prominence, the cardinal features of the majority being an alleged cure of diseased states by the employment of other means or agents than drugs, which latter are decried and declared as poisonous and injurious.

Conspicuous among these is a system called osteopathy, and during the past few years, because of attempts to secure legal recognition, it has come into sufficient prominence to attract the notice of the members of the medical profession and the laity throughout the United States, as its disciples can be found in almost every village and hamlet in this country.

It has been one of the subjects for discussion at many of the local and state society meetings in the various states, especially since the osteopaths have been very active in legislative matters. There are now thirty-eight states that have laws recognizing and regulating the practice of osteopathy, and the medical profession, as a whole, has been disgracefully apathetic and deserves no credit for permitting this official recognition without most emphatic protest.

I sincerely believe that the majority of the members of our profession possess but a vague and indefinite knowledge as to what osteopathy really is, and the great majority of us have a very imperfect conception of its so-called principles and the precepts based thereon.

Realizing this fact, the object of this paper is to present a concise yet comprehensive view of this alleged science of osteopathy as defined in their standard text-books and periodicals, so that, by being familiar with its tenets and principles, we can intelligently work together as a body, first for the protection of the public and, therefore, indirectly for the higher interests of medical science and its art, on which afflicted humanity relies for relief, cure and the prevention of disease.

WHAT IS OSTEOPATHY?

Hulett, in his "Principles of Osteopathy," defines it as follows: "Osteopathy is a system of therapeutics which, recognizing that the maintenance and restoration of normal functions are alike dependent on a force inherent in protoplasm, and that function perverted beyond the limit of self-adjustment is dependent on a condition of structure perverted beyond these limits, attempts the re-establishment of normal function by manipulative measures designed to render to the organism such aid as will enable it to overcome or adapt itself to the disturbed structure." Thus the pathology of osteopathy repudiates science and explains typhoid fever, tuberculosis, scarlet fever, pneumonia, smallpox and other ills of humanity as due to misplaced tissues.[1]

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[*] Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Osteopathic training is claimed so to augment the sense of touch that the fingers are enabled to locate the exact spot of the dislocation, and by osteopathic knowledge of anatomy manipulate, as no one else can, the tissues back to their proper relationship and thus cure the afflictions of humanity!

ORIGIN OF THE TERM OSTEOPATHY.

The term osteopathy is from the Greek words "osteo" (bone) and "pathos" (suffering) and literally signifies "bone suffering." But this does not refer to "bone disease" or "bone treatment," as we might suppose, but has reference to the chief basal fact of the body, viz., the order and mechanics of the body. It is on this fundamental idea of order and mechanical relation in the body that the alleged science is based.

ORIGIN OF THE SCIENCE.

The founder of the alleged science of osteopathy was Dr. A. T. Still, who for (a few) years was a practitioner of the erroneously called allopathic school. He announced publicly the principles of the new science at Kirkville, Mo., in 1874.

OSTEOPATHIC EDUCATION.

The osteopathic schools, according to Dr. (never received M.D.) O. J. Snyder, president of the Pennsylvania Osteopathic Association, are well versed in general medicine, and they claim to have had originally four terms of five months each, but recently this has been changed to three terms of nine months each. The reason for this change has not been given. The total number of hours devoted to the complete course is about the same as in the average regular medical school. They claim to teach everything the same as the regular schools, except materia medica, for which they substitute the principles of osteopathy. These statements are published in the March, 1907, issue of their leading journal entitled *Osteopathy*. As a matter of fact they teach the fundamentals erroneously, especially anatomy and physiology.

Now, if these statements are true that they teach the same subjects in as thorough a manner and devote the same number of hours to the subjects, then why do they object to the graduates of their schools passing the same examination as do the graduates of the other medical schools, and then be left to practice whatever branches of therapeutics they may elect? Because, like all sects, they wish to have sole control; their existence depends on self-control.

In other words, why not place all medical graduates on an equality, as they should be then required to possess the same preliminary education, a similar medical course for their degree and the same state board examination, differing only in substituting osteopathic manipulation for drugs under the subject of therapeutics in their college and state board work? Is not this a just and equitable arrangement? On therapeutics only do the allopathic, homeopathic and eclectic schools differ at present.

The only way to attain this end is one medical board made up of representatives from each system of medicine. This is what we desire the legislature of this and other commonwealths to grant for the protection of the educated physicians, no matter what the school, against the quacks, charlatans and incompetents who pose as physicians. This is all that we desire, and such an arrangement would be just as advantageous and protective to the properly trained osteopath as it would be to the members of the regular school.

In an address to the members of the legislature of Pennsylvania in 1907 by the Pennsylvania Osteopathic Association in support of the bill to regulate the practice of osteopathy, favorable consideration of their present bill is asked for the following alleged reasons:

> *First.*—Because osteopathy, as an accepted science in the practice of the healing art, has come to stay, as can be testified to by the thousands of its patients in Pennsylvania to-day.
>
> *Second.*—Because of the great success and popularity of osteopathy as a method of healing, the public are demanding protection from impostors and frauds, who are endeavoring to practice the art without the proper educational qualifications, to the detriment of the health of the credulous and uninquiring.
>
> *Third.*—Because all other forms of practicing the healing art, allopathy, homeopathy and eclecticism, are regulated and protected by the laws of Pennsylvania.
>
> *Fourth.*—Because the osteopathic profession desires only fair play and a square deal with other schools of medicine, and this bill provides that applicants to practice osteopathy shall take the same examinations as are required of those wishing to practice medicine, and that the state medical council shall issue licenses to practice osteopathy in the same manner as it issues licenses to practice allopathy, homeopathy or eclecticism.
>
> *Fifth.*—Because a consideration of the present bill will disclose that the osteopaths are ready and willing to adopt the same educational qualifications as required by the other schools, both preliminary and collegiate.

Now, if these are their true reasons for official recognition, as they pretend them to be, having presented them as such to our legislature, then why do they object to one medical board with proper representation? There can be but one explanation for an objection by the osteopaths: They do not intend to furnish the same qualification for licensure. Otherwise they would not have presented their bill providing for a distinctive board composed of osteopaths. The reasons for this are obvious to any one.

THEORY OF OSTEOPATHY.

According to the statements of the leading osteopathic authorities the osteopathic treatment is purely mechanical and consists of manipulations which seek to remove all obstruction to the vital forces of the body, and the theory on which it rests is that all diseases are due to some mechanical obstruction to the vital forces in the body, which may be removed mechanically without use of drugs. They claim that the method of treatment is based on a thorough knowledge of the normal and abnormal anatomy and physiology of the body.

THE CAUSE OF DISEASE.

Here the osteopath likewise differs from medical practitioners. The ideas held by osteopaths as to the etiology of the various diseases may be summed up as follows:

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[1] Dr. Andrew Still in the January, 1908, issue of the *Ladies' Home Journal*, writing on the subject, "How I Came to Originate Osteopathy," makes the following statements: "I do not believe, and I say this after forty years of close observation and experiments, that there are such diseases as fever—typhoid, typhus or *lung*—rheumatism, sciatica, gout, colic, liver disease, croup, or any of the present so-called diseases. They do not exist as diseases. I hold that separate or combined they are only effects of cause, and that in each case the cause can be found and does exist in the limited or excited action of the nerves which control the fluids of a part of or of the entire body. The therapeutics of osteopathy are independent and original, and as extensive as the entire medical and surgical fields."

First.—Perverted Mechanics: That is mechanical derangement of the anatomic parts of the body. A very common cause of disease. Structure determines function. If the structural relations of the body tissues are all right, then the functions are normal, but if the structure is perverted in any way then the function is also perverted, and this is what we denominate as the cause of disease. This is the Magna Charta of osteopathic declaration, the golden rule of osteopathic procedure.

Second.—Bacteria: Bacteriology is alleged to be taught in every osteopathic school with the same exactness as in the best regular schools.

The osteopath has always held to the germ theory as the cause of certain diseases, but the osteopath does not use the same means to recover the health of a patient so infected, yet he recognizes that such conditions exist. The osteopath, emphasizing that disease is primarily of mechanical origin, holds, therefore, that germs are generally a secondary factor in the cause, and he believes that so long as the tissues of the body are healthy no germs can infect the body. There must be a suitable soil for the bacteria to live in or the bacteria will not cause infection. He further believes that if any part of the body is infected, and he can restore a good circulation of pure blood to the part so as to restore a healthy condition of the tissues, the invasion of bacteria stops *then and there. I should like to know what specific dislocations cause, respectively, the infections, as microbic diseases result from misadjustment of structure, according to osteopathy.*

The osteopath recognizes that disease may be due to toxic or poisonous compounds which may enter the system, but you will notice that the cause of the presence of toxic products is due to a perverted function, which is the result of a perversion of structure.

In case of the ingestion of a fatal dose of a poison, the osteopath would give the usual antidote and treat accordingly. They have a course in toxicology in their college course, claimed to be properly taught.

OSTEOPATHY AS A SYSTEM OF MEDICINE.

The osteopaths state that osteopathy is not a part of medicine and has nothing in common with it, other than the professed aim to cure disease. Its diagnosis and treatment are wholly unlike those of any other system of healing. The aim of medicine is to relieve symptoms, whereas osteopathy has for its object the removal of the cause. The regular physician treats symptoms, whereas the osteopath treats the lesion causing the symptoms.

OSTEOPATHY AS RELATED TO MASSAGE AND SWEDISH MOVEMENTS.

Osteopathy is claimed to be entirely distinctive from massage or Swedish movements, resembling them only in being an application of a mechanical principle. Massage and Swedish movements are only systemic exercises, whilst osteopathy is adjustment. Osteopathy is not exercise, and it is not given with the object of giving exercise to a patient, although in taking the treatment the patient receives a variable amount of exercise according to the lesion requiring adjustment.

OSTEOPATHY AS A SCIENCE.

The osteopath looks on the human body as a machine, and if the machine is in perfect order and harmony within itself then a state of health prevails. The bones form the foundation and framework of the body. The muscles and ligaments are strung on the bones, and the bones have more to do in determining the order and form of the body than any other tissue in the body. The nerves become irritated by physical, chemical, traumatic or other causes, and these irritated nerves cause the muscles and ligaments to contract, and this brings about more or less maladjustment in the body.

These maladjustments interfere with the function and are termed lesions, or the seat and underlying cause of disease. All diseases are due to lesions, and these lesions may occur in any portion of the human body. The osteopath claims that with a proper knowledge of the anatomy of the body he can detect these lesions, and the purpose of his treatment is to remove them and thus establish harmony and order in the body, which is the basis of health. The body being a vital machine, all it needs is to be able to perform its functions, and then it recuperates itself. Hence, by various manipulations, using the bones as levers, the purpose of the osteopath is to readjust a maladjusted body as structure determines function, and if we re-establish a normal structure then normal function will result. To cause this adjustment may require only a single movement, as in reducing certain dislocations as around the elbow or hip joints by rotating the arm or leg and pushing into position; or it may require several weeks' treatment, as where certain of the vertebræ are involved, and in giving the treatment the practitioner may have in view either or both of two objects. He works to right the spine and to affect it alone, or he works on the spine to affect some other part of the body pathologically connected with the part of the spine in question.

In the treatment of the spine, twenty-one different methods of manipulation are resorted to according to the lesions present, as described in Hazzard's Practice of Osteopathy. I will merely mention two of them to show the kind of methods that are used.

For relieving contractures and toning up flabby muscles the patient lies on the ventral aspect of the body in a comfortable position, the head is turned to one side, and the arms hang loosely down at the sides of the table. The patient relaxes all his muscles, and the osteopath stands at the side of the patient and uses the palm of the hand or the cushion of the fingers to thoroughly manipulate and relax all the spinal muscles. In treating the muscles on the side toward him he works from one end of the spinal column to the other in a direction at right angles to the general direction of the muscular fibers. He treats the muscles of the opposite side by spreading them away from the spinous processes.

In case of curvature or sagging of a portion of the spine, or lateral deviation of the vertebræ, the patient lies on his side, and the practitioner stands at the side of the table in front of the patient. With one hand he grasps the uppermost arm of the patient just above the elbow; the other hand he holds under the spinous processes or any portion of the spine under treatment. Now, using the arm as a lever, he pushes it downward and forward, at the same time springing the spine toward him.

In order to have a practical demonstration of this treatment I consulted one of our prominent osteopaths, a member of the faculty of the Philadelphia College of Osteopathy, and, as expected, I had a slight curvature of my spine, etc., which he manipulated, using a number of their classical manipulations. He informed me that each osteopath has certain manipulations characteristic to himself in addition to the classical ones, and he also told me that all that they do is to stimulate the circulation and make people "feel good." "That is why osteopathy is so popular."

THE OFFICE EQUIPMENT OF AN OSTEOPATH.

The office equipment usually consists of a reception room and one or more booths or "work rooms," in which there are a leather covered table and several chairs or couches. The patient, if a man, removes his top clothing down to his underclothes, except his trousers; and if a woman, after removing the outer garments in a similar way, she wears a loose gown during the treatment. "Their peculiarly sensitive sense of touch responds through two thicknesses of clothing, as they determine the lesions causing the disease with the *x*-ray tipped digital phalanges of their fingers which show the maladjustments of structure and dislocations." They certainly possess supernatural power of palpation and, strange to say, it is all acquired in three years!

As a rule, their offices are attractive and handsomely fitted up, even in the country towns.

CHARACTER OF CASES TREATED.

The majority of the patients are from among the middle and upper classes, as their treatments are rather expensive for poor people, although they have free dispensaries connected with their colleges. Their usual fee is $25.00 for twelve treatments, some charging more, some less. The time required for a treatment varies from ten minutes to an hour.

Osteopathy will never interfere to a great extent with medical practice, as the great majority of the patients are treated in the offices for conditions that allow them to be around, and if they are really sick with some acute disease, a regular practitioner is called, so that osteopathy is a sort of gymnastic specialty, as it were, and not invoked as yet for illness which regular practice confronts. Of course, some osteopaths attempt to treat serious cases, but they are in the minority.

Thus we have a clear conception of what osteopathy really is and stands for as stated by the leading authorities of their school.

Now let us consider the relations between osteopathy and the various branches of medicine, remembering that they treat all these affections solely by manipulation, as they are opposed to the use of drugs in the treatment of disease.

OSTEOPATHY AND GENERAL MEDICINE.

The osteopath represents himself as a competent clinician and treats all the various medical diseases, including the acute infectious diseases such as typhoid fever, tuberculosis, malaria, pneumonia, etc.

Diseases of Children.—The osteopath treats all the various diseases of childhood, including the contagious type, such as diphtheria, scarlet fever, etc., and he is opposed to the use of antitoxin in diphtheria and also to vaccination.

Ophthalmology.—The osteopath treats such diseases of the eye as granular eyelids, strabismus, pterygia, partial and total blindness, eyestrain, etc., and he does it by manipulation alone, for according to their pathology these conditions are due to maladjustments. They treat practically all the usual eye diseases.

Diseases of the Ear.—In the treatment of diseases of the ear, the osteopath uses a head mirror and ear speculum. He treats various types of otitis, deafness, earache, etc. He uses and recommends antiseptic agents in solution, injected by means of an ear syringe, yet he claims to be opposed to drugs!

Diseases of the Nose and Throat.—They treat the various affections of these parts, including such diseases as laryngitis, tonsillitis, parotitis, pharyngitis, stricture of the esophagus, etc.

Neurology.—They treat the various nervous affections, such as chorea, epilepsy, locomotor ataxia, paralysis agitans, etc.

Diseases of Women.—Diseases of women are a most important part of osteopathic practice, and they make vaginal examinations for the purpose of diagnosis, and in giving treatment they not only treat the patient along the lumbar portion of the spine, but also treat through the vagina, especially in such conditions as uterine displacements and prolapsus. They treat various menstrual disorders, ovarian and tubal inflammations, leucorrhea, uterine tumors, carcinoma, etc. Some of their treatments for gynecologic conditions are of especial interest, and they have special text-books on osteopathic gynecology. The following is a good example: In Hazzard's Practice, page 418, for the treatment of uterine hemorrhage the following procedure is recommended: "Often a quick, rather hard jerk at the hairy covering of the mons veneris is sufficient to contract the vessels and stanch the flow. Stimulation of the clitoris is also an important means."

Obstetrics.—Osteopaths treat and deliver pregnant women and recommend special procedures to aid in the delivery of the child. A few of their special manipulations are of interest, as recommended on page 418 of Hazzard's Practice. To deliver the placenta "a quick pull at the mons veneris will aid in expelling it." "Desensitize the clitoris to stop after pains."

Genitourinary Diseases.—They treat orchitis, varicocele, enlarged prostates, impotency and even gonorrhea and syphilis. Gonorrhea is usually readily cured without the usual sequels (page 422, Hazzard's Practice), and it is done by manipulations which "frighten the gonococcus."

Orthopedic Surgery.—Osteopaths make a specialty of reducing deformities and dislocations; hence they treat all the affections classified under this heading, such as spinal curvatures, Pott's disease, etc.

Diseases of the Skin.—They treat the common skin diseases, especially those of systemic character, including syphilis, etc.

Surgery.—Osteopaths recognize surgery as a branch of medicine at times necessary, but some of the treatments that they recommend before resorting to surgical means are particularly interesting. One will suffice to illustrate some of the barbarous and dangerous procedures that are advised in their text-books and carried out in actual practice among civilized people throughout the United States.

In Hazzard's Practice, page 174, we read under treatment of intestinal obstruction: "Some writers recommend thorough shaking of the patient. The patient is held by four men by the arms and legs, first with the abdomen upward, then downward, while the shaking is done. There should be much persistence in the treatment." This treatment would certainly relieve the obstruction, especially if the intestines are soft and gangrenous, but the undertaker's services would be required a little later as an adjuvant to the treatment.

LIMITATIONS OF OSTEOPATHY.

Hence one can readily see from the above classifications that osteopathy has no limitations, as they claim to cure every disease that ever has existed or ever will exist, as can readily be proved by an examination of Hazzard's work on the practice of osteopathy. They even treat pneumonia, typhoid fever, tuberculosis, acute nephritis, uremia, smallpox, parasitic diseases, such as those caused by various intestinal worms, and even tumors melt away as snow under the midday sun, according to their authorities.

DO OSTEOPATHS USE DRUGS?

It is frequently stated that osteopaths condemn the use of drugs and are opposed to them. A few examples will prove the falsity of such statements. As stated before, in the case of acute poisoning, the usual chemical antidotes are ordered, and they are taught these in their medical course. In Hazzard's Practice, page 390, we read under treatment of variola: "The ordinary methods of preventing pitting by keeping the face washed with a carbolic or mercuric chlorid solution and covered with clean cloths saturated with warm water should be used."

Again, on page 394, under worms: "For tape-worm the patient should then drink quantities of pumpkin-seed infusion or eat a gruel made of mashed pumpkin-seed."

On page 353, under myxedema, we read: "It seems that in these cases thyroid feeding, a treatment regarded as specific, would be necessary."

On page 227, under the subject of chronic cystitis, we find: "In this form and in septic cystitis, washing out the bladder is a valuable aid to the treatment. For the chronic cases, sterile normal salt solution (40 to 60 grains to a pint) or weak solution of mercuric chlorid (1:50,000 or 1:100,000) are recommended. For septic cases, a saturated solution of boric acid may be used. Their explanation of microbic infection is here overlooked.

On page 162, under cholera infantum, we find: "Hot injections are valuable measures, aiding in the removal of the irritant material from the bowel. A mustard plaster over the abdomen relieves pain." These statements are taken from one of their leading books on the practice of osteopathy. But how in the world any one can stop the growth of diphtheria bacillus in a child's throat by raising the clavicle and pressing the first rib downward and forward, working at its central articulation to correct the position of its head, is beyond my comprehension. Or in the case of hemorrhage complicating typhoid fever, inhibition of peristalsis should be done by work from the ninth dorsal vertebra down along the lumbar region. How this checks hemorrhage I should be pleased to hear some one explain. In my judgment, it would increase it, and if manipulation is very vigorous the danger of perforation would be greatly intensified, yet this is the treatment recommended.

Also, where a child is suffering from infection with the oxyuris vermicularis around his rectum, how raising the lower ribs causes their expulsion requires a little Christian Science faith to comprehend, does it not? Their vasomotor arc explanation is disproved by the facts of physiologic science!

Several of the patients who have been treated recently at the Philadelphia College of Osteopathy have been advised to use certain medicaments at home when manipulations did not relieve them, as they have told me personally, yet the osteopaths state that drugs are poisonous and injurious and they are opposed to them. I have seen prescriptions in drug stores written by osteopaths!

OSTEOPATHIC STATE BOARDS.

Now, what are the objections to the osteopaths receiving official recognition in the various states and being licensed as the result of examinations before state examining boards composed of osteopaths?

1. They are not required to possess the same preliminary educational requirements as members of other medical schools, some of their graduates not even possessing a grammar school education.

2. The course is completed in three years, while regular practitioners are required to take four years.

3. They represent themselves as physicians when using the title Doctor, and they treat every disease that is known, whether they can do good or not, manipulation often imperiling the life of a patient when suffering from certain affections, like tubercular arthritis or intestinal obstruction, etc.

4. They treat any one who applies to them whether they are under the care of another physician or not; hence have no code of ethics, except to use a name and collect the fee.

5. They treat patients in conjunction with practitioners of other schools, illustrating that the commercial weakness of birds of a feather affects the medical profession as it characterizes man everywhere.

6. A number of them secretly treat patients who are under the care of a regular physician.

7. If a patient's condition becomes serious they promptly drop the case and have the family send for a physician. They do this only because they can not fill out death certificates. License them and they can. That is what they desire.

8. They occasionally write prescriptions for drugs or give verbal orders for their use, notwithstanding their claim that they are opposed to the use of drugs as remedial agents.

9. They have not the slightest knowledge of the proper phraseology in the construction or writing of a prescription.

10. If they should become licensed, they will not confine themselves to manipulation, but will attempt to practice regular medicine as well, thus antagonizing their own statements by using drugs and baths, yet they claim to oppose them.

11. They presume to pose as expert witnesses in litigation.

12. They are opposed to vaccination, the use of serums, such as diphtheria antitoxin, and other agents, such as electricity, *x*-ray and hydrotherapy.

Now, what is the cure for the present existing conditions in the medical profession throughout the United States?

1. A one-board bill with proper representation, the same educational requirements and equal recognition to the graduates of all the various medical schools, the examination being the same in all subjects, except therapeutics, on which questions relative to the particular system of medicine studied should be asked, or the subject omitted entirely, allowing each one who receives the licensure to practice whatever system of medicine he deems best, i. e., protecting the public from the fearful consequences of incompetent practitioners by requiring

by law that everybody who offers his services and assumes the responsibilities of treating disease, deformity and injury, should qualify under one standard of knowledge, training and ability, and this opportunity free for all alike. There are forty-four states at present that have a one-board bill in operation.

2. This standard to be the same in each and every state in the Union, so that proper reciprocal relations would be established which would enable a physician receiving the licensure in one state to transfer and practice his profession in any other state should he so desire, and at any time.

3. Any physician addicted to drugs or alcohol, or convicted of criminal or malpractice, abortion or other practices contrary to the laws of his state, shall have his license permanently revoked, and said revocation to bar him from the practice of medicine in any other state.

4. A common standard of preliminary education should be exacted of every person desiring to enter a medical school anywhere in the United States, and every student should be required to pass this examination, no matter what his credentials are, not excepting a degree in arts or science; said examination to be about equal in standard to the present preliminary examination in law in Pennsylvania or New York or the equivalent of the present medical standard of the New York Board of Regents. This standard would debar a large number of students who do not possess the proper preliminary education and who are a disgrace to the medical profession.

5. Every applicant should be of sound mind and body and of good moral character.

ABSTRACT OF DISCUSSION.

Dr. Alexander S. von Mansfelde, Ashland, Neb.: There are very few members in this hall, I am afraid, who have not been guilty, when their patients have asked: "Have you any objection to my taking a few osteopathic treatments?" of answering: "Oh, I don't suppose it will hurt you. It is just massage." I hope that members of the American Medical Association will not hereafter commit the wrong of saying that osteopathic treatment is massage.

Dr. John Kercher, Chicago, Ill.: I wish to quote from a booklet by W. Livingston Harland, an osteopath, a definition of osteopathy assumed to be authoritative. When I get through I shall be glad if any one can enlighten me on the meaning, as I do not understand it yet, although I have read it several times: "Osteopathy may be formally defined as the science which consists of such exact, exhaustive and verifiable knowledge of the structure and functions of the human mechanism, anatomical, physiological and psychological, including the chemistry and psycho-physics of its known elements, as has made discoverable certain organic laws and remedial resources within the body itself, by which nature under the scientific treatment peculiar to osteopathic practice, apart from all ordinary methods of extraneous, artificial, or medical stimulation, and in harmonious accord with its own mechanical principles, molecular activities and metabolic processes, may recover from misplacements, disorganization, derangements, and consequent disease, and regain its normal equilibrium of form and function in health and strength." The volume is called "Osteopathy: The New Science." It stands as a sort of text-book for the osteopathic cult and the author, in his introductory, says: "This little volume, which we believe is the first that has ever been published in book form on the science of osteopathy," etc.

Dr. R. A. Lyman, Lincoln, Neb.: The osteopath surrounds some of the newer methods in therapeutics by a system of graft which is not understood by the layman. This fact medical men should remember. To the layman's mind osteopathy and massage are one and the same. A short time ago a prominent member of the faculty of the University of Nebraska asked me what I thought of osteopathy. He had been treated by an osteopath, had been benefited, and now praised the "doctor" highly. I gave him the substance of the "system." He had supposed that osteopathy and massage were identical. When I took the trouble to explain that massage is but one of the methods of treatment that has been used for years by the regular profession he regarded osteopathy in an entirely different light. Psychotherapeutics and Eddyism are identical in the mind of the average layman. It is our duty to explain these fads to our patients. If this is properly done the average thinking man will get the proper perspective. Such a procedure on the part of medical men will do more towards eliminating these systems of graft than all the legislation which might be enacted.

Dr. M. Clayton Thrush, Philadelphia: I presented this paper primarily for three reasons: First, to show in a concise way what osteopathy really is and what constitutes its important principles. I have talked with many physicians on this subject and none could give me anything like a satisfactory explanation of the claims of osteopathy. Second, to show how dangerous it is. Every one in this room has been asked by a patient whether he should try osteopathy. Often these patients have a disease in which the methods used by osteopaths will do harm and may even cause death. Third, to plead for a one-board medical law. We have only ten states in this great union without such a law at present! Each man who practices healing, no matter what his cult, should be required to pass the same medical examination and with the same preliminary requirements, etc. We have only seven states which do not require every candidate to be at least a graduate of some reputable and chartered school of medicine; and with only seventeen states remaining which do not possess reciprocal relations, our work is almost but not quite finished. We want to get these seven states in line. When we do this we shall have this task complete. Do not forget the important facts which I have outlined in my paper and which prove that in recommending osteopathy you are recommending to your patients procedures that may mean death or at least harm to your patients.

MEDICAL VERSUS SURGICAL TREATMENT OF AMEBIC DYSENTERY.*

JOHN MILTON HOLT, Phil.B., M.D.
Passed Assistant-Surgeon United States Public Health and Marine-Hospital Service.
BROOKLYN, N. Y.

In a paper[1] read before this association in 1907, I advocated surgical treatment of all patients with amebic dysentery, in whom, after a fair trial of other forms of treatment, *Amœba coli* could be found in the stools.

In offering some definite time limit during which these various other methods of treatment could be carefully and impartially exhibited, before classing a case as chronic (and, in my opinion, surgical), I suggested a period of about a year.

In the discussion of the paper, Dr. A. J. MacKenzie, Portland, Ore., expressed the view that I had been too conservative in waiting a year before operating, and suggested that appendicostomy be performed if the disease proved resistant after six months.

The fact that this question is of such vital and practical importance is my justification for presenting another paper on the subject.

Another incident influencing the production of this paper has been the appearance, since last year, of several other articles dealing with different phases of amebic dysentery. The topic may not arouse the lively interest of all, but should a physician consulted in a case of amebic dysentery be unfortunate enough to acquire the disease, the question would then appeal to him very strongly.

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* Read at the Annual Meeting of the Oregon State Medical Association, Portland, Ore., July 2, 1908.

[1] Amebic Dysentery, Chronic, a Surgical Disease, N. Y. Med. Jour., Nov. 16, 1907.

At one time I was a victim of this malady, and for five years I have made an exhaustive study of the subject in all its phases. I consider it an obligation, therefore, to record my observations, experiences and opinions, and leave for time and the majority experience of other workers in the same field to determine the course to be generally adopted for the greatest good to the greatest number. As it is now, too many of these patients are receiving too little serious attention, when their salvation could be worked out at the expense of but a modicum of mental energy.

All observers are agreed as to the marked tendency of amebic dysentery to resist all ordinary treatment and to become chronic; a fact which renders it all the more imperative for us to devote our best endeavors to the development of a rational, uncompromising plan of attack in dealing with the disease in its chronic form. We should not permit any case to run on indefinitely, because the patient is "doing fairly well," when it could be cleared up once and for all by simple surgical treatment.

In one of my cases reported last year, treatment by colonic irrigation was begun as soon as amebas were demonstrated, or about three weeks after the onset of symptoms. This treatment was continued daily for over a year, except on the day on which microscopic examination was made. Amebas disappeared from time to time, only to return. Undue exertion or ordinary physical fatigue always caused an exaggeration of the symptoms, and a life of semi-invalidism seemed a certainty. During part of that time irrigation was practiced twice a day (always once a day), care being taken by change of position to encourage the flow toward the transverse and ascending colon. Several hours were devoted each day to the careful, conscientious employment of the irrigation treatment, with the full hope that recovery would be the reward. Nothing was considered too much trouble. But while there were periods of improvement, symptomatic improvement—if we can speak of it as such—the parasites persisted, no matter what irrigating solution was employed. Hope began to wane. For a time ice-water irrigations were used, as recommended by J. P. Tuttle. The irrigator was filled with cracked ice and the solution allowed to stand in it for about twenty minutes before using, when as much as five quarts of it would be introduced at one time. As an indication of how cold the solution was, I would say that chipped ice still remained in the irrigator after the entire solution had been passed into the colon, and the hand, held against the abdomen over the transverse colon, could detect the ice-cold temperature of the skin of the abdominal wall, transmitted through all the structures and tissues between the palpating hand and the colon.

The sigmoidoscope was used, and it was seen that no lesions were present below the sigmoid. Operation was decided on in this case after one year, but owing to family reasons its employment was not possible until after two years.

Will anyone offer and prove a valid reason for continuing medical treatment indefinitely after an experience of this kind? It should be added, however, that this is not an isolated example, but, unfortunately, is the experience in a large percentage of cases.

Any man who has had both medical and surgical experience with this disease will firmly endorse my line of classification, with the principles of treatment as suggested for the two classes of cases, acute and chronic.

But it is not to those men of the profession to whom I would particularly address myself (except for confirmation and endorsement), but to those who have not given the subject particular study and to those who have treated all their patients medically.

In the persistent study and presentation of this subject my sole object has been to invite earnest dissent, as well as earnest support, to the end that the best and most practical procedure may be adopted, even though it be the exact antithesis of my conclusions. It is the eternal truth toward which I am striving, whether that truth in this instance confirms or disproves.

There are altogether too many patients with amebic dysentery who to-day are no better than they were six months after the onset of the disease. There are patients now in the United States in whom the disease has persisted for six, eight and even ten years. One might say that they could be treated surgically if they wished to be; but has appendicostomy been even offered to them? Has the profession been educated up to the point of offering, or better, of advising operation after a certain lapse of time? Evidently not, if we are to judge from the relative infrequency of the operation, and compare it with the large number of chronic cases.

According to the annual report of the director of health for the Philippine Islands, Victor G. Heiser, Passed Assistant-Surgeon, U. S. Public Health and Marine-Hospital Service, during the year ended June 30, 1907, there were 344 deaths due to amebic dysentery in the city of Manila, as against 288 for the preceding year.

For every death there are about twenty patients who live, which would make a total of nearly seven thousand cases for that year. When we consider that a large proportion of that number return to the United States and are scattered all over this country, it can readily be seen that amebic dysentery becomes a matter of importance to the general practitioner everywhere in this country, and the subject can not be dismissed because primarily a "tropical disease." Progressive practitioners indulging in postgraduate work should take opportunity to familiarize themselves with the *Amœba coli* under the microscope, and then interrogate the stools in "that case of intractable diarrhea."

When a patient presents himself for treatment with a history of "a running off at the bowels," as it is frequently characterized, automatic recourse to bismuth, opium, or similar drugs should not invariably follow. With rest, dieting and slight medication, an acute exacerbation of a chronic amebic dysentery will often yield, so far as the diarrhea is concerned, and one may be misled into thinking that a "slight attack of diarrhea" has been "cured." *There should be more frequent use of the microscope in these cases.* It should also be constantly borne in mind that a patient does not have to go beyond the United States to acquire this disease, as it has been shown by Tuttle that cases have occurred among those who have never been outside of New York.

Futcher[2] reports ninety-five cases of amebic dysentery contracted in Maryland and seventeen in eight other states, which gives an idea how widespread the infection was five years ago.

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[2] THE JOURNAL A. M. A., Aug. 22, 1903.

Now, whether the disease be *considered chronic after* a year or after six months, I believe that when it becomes chronic it also becomes surgical.

On the other hand, while it remains acute, it also remains medical, with the single exception of those acute cases which grow steadily worse, even while under treatment. I do not advocate surgical treatment for both acute and chronic cases (with the one exception just stated), but assert that a case ceases to be a medical one as soon as it ceases to be an acute one.

While there may be debatable ground for the adherents of the medical treatment of appendicitis, there remains no tenable ground on which to justify continuation of medical treatment and exclusion of surgical relief in cases of amebic dysentery after they have ceased to be acute. In the latter case, one has everything to gain and nothing to lose. He has already lost all he can spare.

It will be seen, therefore, that all through the consideration of this subject the questions come up: When does a case cease to be acute? When does it become chronic? While that can only be stated approximately, that approximate borderland should be bounded by some definite limits, as: Not earlier than six months or later than one year; or, placing it within narrower margins: Not earlier than nine months or later than one year. Some set of principles should be established on which to govern our practice in these cases. The issue should be squarely met. If some such borderland is not established, procrastination only will result and patients permitted to suffer who could be relieved. It was for that reason that last year I suggested a working basis in these words: "Amebic dysentery, with lesions above the sigmoid, chronic for over one year, resistant to colonic irrigations, then become a surgical disease."

One year was suggested as meeting the demands of conservatism, as I have been actuated by a conservative inclination from the beginning. But if further experiences prove that a year is too long to wait, the proper level will be shown by the gauge of clinical experience.

In the *Military Surgeon* for January, 1908, there appears an article on "Ipecacuanha in Amebic Dysentery" by Surgeon Henry I. Raymond of the United States Army. While the enthusiasm of Raymond as to the permanent value of ipecac in amebic dysentery is shared by but few others, still, for the purpose of this paper, I invite attention to certain points of related interest.

At this point I wish to state that in my opinion there is no known drug which, taken by mouth, can be tolerated in sufficient strength in the upper alimentary passages to secure a destructive or toxic action on amebas in the colon. Quinin has proved to be destructive to the parasites when brought in direct contact with them; ipecac has not. And yet quinin irrigations have failed to cure in many cases, perhaps because the amebas have become encysted, and then imbedded beneath the submucosa, sufficiently remote and fortified to withstand the action of the quinin solution in the lumen of the gut, only to develop marked activity after a lapse of time, during which the patient has considered himself or has been considered as cured. This would account for the fancied disappearance of amebas from the stools in so many cases. Quinin acts on the *Plasmodium malariæ* in the blood, while *Amœbæ coli* are within the lumen of the intestine and are not approachable through the medium of the circulation.

For accurate scientific data of reliable clinical value I believe the stools should be carefully examined microscopically for many months and even years after supposed recoveries. It would be of value, too, if these examinations were made by an impartial observer rather than by the clinician himself.

I know of patients who considered themselves recovered, and were so pronounced by their physicians, who were free from all symptoms for three, four and five years, only to be stricken with severe acute attacks, in the meantime not having been beyond the borders of the United States.

In Case 4 in Raymond's article it will be seen that five months after reported recovery following ipecac treatment the report states that "a few sluggish amebas" were found. To be sure, this patient was in the Philippines at the time, but the time under observation after the treatment was discontinued was only ten months. During that time five microscopic examinations were reported, *amebas being present once.* The history of this case since November, 1906, would be of decided interest to workers in this field.

Raymond's Case 5 is reported as having been subjected to microscopic examination for only one month after treatment.

While it is not my purpose to belittle the ipecac or any other treatment, the ipecac treatment, by the majority of observers, has been found wanting in amebic dysentery, no matter what it may do in other forms of dysentery. With ipecac or without ipecac, with quinin or without quinin, with argyrol or without argyrol, if *Amœba coli* persist after a year amebic dysentery becomes a surgical disease.

In his well-known work on "Tropical Diseases" Manson says:

> I can offer no explanation of the action of any of these drugs (including ipecac) in dysentery. We use them quite empirically. Ipecacuanha and simaruba really seem to have some sort of specific action on the disease or its cause, but in what way it is impossible to indicate. Strange to say, ipecacuanha, which has been found so serviceable in India, Africa, the Brazils and elsewhere, has a very poor reputation as an antidysenteric in the United States (Osler); it has also signally failed in some English epidemics (Clouston); facts pointing to specific differences in the dysenteries of different countries.

If ipecac is of value even in a limited number of cases, give it a chance. Leave nothing undone in striving to *prevent the case becoming chronic;* then, having done all, treat it surgically.

To reiterate: Amebic dysentery, *in its initial acute manifestations*, is a medical disease. When it refuses to yield to medical treatment and becomes chronic, it then becomes a surgical disease, and no patient should be denied the permanent relief which surgical treatment holds out to him.

Anders[3] has said: "I believe that ipecacuanha is the best single remedy for the treatment of this disease, but it is not a specific, and not all patients can take massive doses."

Referring again to the *Military Surgeon* for January, 1908, Assistant Surgeon Robert M. Thornburgh of the United States Army, in an article on "The Treatment of Amebic Dysentery," says:

> From the writer's *observations* while in charge of the dysentery ward in the Division Hospital, Manila (part of 1905-6), the cases treated *solely by ipecac* or by ipecac combined with

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[3] THE JOURNAL A. M. A., Aug. 22, 1903.

> quinin enemata, nearly always relapsed when the treatment was discontinued. . . . No internal treatment used by itself was successful in the hands of the writer in any case of these subacute or chronic cases. . . . Quinin sulphate . . . has been extensively employed with some undoubted cures and numerous relapses with fatal termination. . . . Ipecac can be given . . . to lessen the diarrhea. It lessens the number of stools, but *does not kill the ameba*. (Italics mine.)

Thornburgh thinks well of rectal injections of argyrol, although the cases he reports were only under observation nine months. But whatever the results of further study of the effects of argyrol, the *rationale* of my line of treatment would not be modified. The patients relieved by argyrol would not have to be considered from a surgical viewpoint. If future experience results in reducing the number of cases now becoming chronic, so much the better; then there will be fewer surgical cases. That would make a difference in numbers without any difference in the principle for which I contend.

Surgical treatment is not an experiment; it has an established place in the treatment of this disease, and I would gladly extend its benefits by heralding its virtues. In fact, it has been so well thought of that it has been employed in pathologic conditions of the colon other than those caused by the *Amœba coli,* and with marked success.

To give expression to the conclusions of other observers who have treated this disease both medically and surgically, I will quote briefly from an article by Surgeon Holton C. Curl[4] of the United States Navy, entitled "The Surgical Treatment of Dysentery." He says:

> The necessity for surgical interference was brought strongly to my attention by observing the number of cases admitted to hospital (Isthmian Canal Hospital, Colon) in fairly good condition, which grew steadily worse in spite of the best medical treatment by careful and experienced men. . . . what I call an "intermediate class" . . . where medical treatment does not check the disease, where the patient loses strength and finally dies, the pathologic condition apparently uninfluenced by medicine or ordinary irrigation. It is in this class, varying as it does between extremes, that I would advise operation, and in most of these cases, it is a *dernier resort*, offering the patient the only chance of recovery.
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> In a condition where there is nothing to lose and everything to gain, the surgeon is tempted to operate in cases in which he feels that the chances are all against recovery. He realizes, however, that cases of this sort—apparently hopeless—will recover in a most surprising manner, and he undertakes the operation often to the detriment of his percentage of recoveries. I prophesy that the mortality percentage will be high until the medical man (as in appendicitis) learns to send his patients to the surgeon before it is too late. Even more than in appendicitis there is a tendency to procrastinate, to try some new remedy, until, when the patient finally reaches the surgeon, his chances are small.

Recently I received a letter from Dr. Jerome B. Thomas, of Brooklyn, N. Y., from which I shall quote. Thomas spent several years in the Philippines and was the physician in charge of the Government Sanitarium at Benguet. He writes as follows:

> I had an experience in treating a case of chronic amebic dysentery soon after my return from the Philippines that has led me to the same conclusion that you have reached. The patient was a personal friend of mine, and we tried diet, internal medication, sanitarium treatment, and all sorts of local treatment for almost a year, when we agreed on appendicostomy as a last resort. Within two or three days after the operation he had made decided improvement, and then his progress was steady and quite rapid. I feel sure that he would have died without the operation.

This is only another of the many examples of how the surgical treatment appeals to the progressive practitioner. It is so essentially practical that it is no wonder that it has been referred to by MacKenzie as "a marvel of ingenuity."

One of Rockey's patients, also a medical man, has said that he would not take $1,000 for the benefit that his appendix has been to him.

While all the literature on the subject is not available at this time, for the consideration of those who have not reached any conclusions in this matter I would mention the names of Weir, Tuttle, Rixford, Nydegger (U. S. P. H. & M.-H. S.), Arthur (U. S. A.), Curl (U. S. N.), MacKenzie, Rockey, Barbat, Willy Meyer, Beck, Elder (of Montreal), and many others who have employed surgical treatment.

In conclusion I would suggest that the *Amœba coli* may not be pathogenic to all men, as it is well known that all individuals equally exposed do not contract the disease. The so-called *Entamœba coli* may be the form of the parasite as observed in the stools of an individual not susceptible to amebic invasion. The so-called *Entamœba dysenteriæ* may be the same parasite developing greater activity coincident with morphologic changes in an individual having a susceptibility to the organism. Have *Entamœbæ dysenteriæ* ever been found in a case presenting no clinical symptoms And have *Entamœbæ coli* ever been found in a person sick with dysentery in whom no *Entamœbæ dysenteriæ* could be demonstrated? This may be a case of a distinction without a difference, a biologic distinction without a clinical difference.

THE PREVALENCE OF HYDROPHOBIA IN THE PHILIPPINE ISLANDS.*

F. W. DUDLEY, M.D.
Attending Surgeon, St. Paul's Hospital.
MANILA, P. I.

Notwithstanding the fact that the organ of the humane societies in the United States has denied the existence of hydrophobia as a distinct disease—and surprising as it may seem, many prominent (?) physicians are quoted in support of the assertion—I shall consider it as such.

While the object of this paper is to show the prevalence of hydrophobia in the Philippines and the necessity of making available modern prophylactic treatment to all needing it, a review of the literature as it stands to-day does not seem out of place.

DEFINITION.

Synonyms are rabies, lyssa, *la rage, Hundswuth, Wasserscheu, Tollwuth.*

Hydrophobia is an acute, specific, infectious malady of the central nervous system, as yet of undetermined origin, principally occurring in carnivora, and to some extent in herbivora, communicated from the lower animals to each other and to man by the bite of an infected animal and productive of symptoms resulting fatally.

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[4] The Military Surgeon, October, 1907.

*Read at the Fourth Annual Meeting of the Philippine Islands Medical Association, Feb. 28, 1907. Owing to lack of space, this article is here presented in abbreviated form. A reprint, giving the article in full, may be had on application to the author, or will be sent to any address by The Journal A. M. A., on receipt of a 2-cent stamp.

The saliva was found by Grüner, in 1813, to be the vehicle of infection. In 1823 Magendie proved that the saliva of hydrophobic patients was capable of conveying the disease to dogs, and this was confirmed by Eckel and Renault. The evidence of the communication of the disease from man to man is incomplete, but it should be held that it may be so conveyed.

The specific cause of the disease has not been isolated. It is customary to restrict the term "hydrophobia" to the disease in man, and rabies to that in animals.

The term "hydrophobia" is, however, not strictly accurate, as there is not necessarily any fear of water during the height of the disease, but only great difficulty in swallowing liquids; the attempts to swallow bring about attacks of convulsions, and not uncommonly the mere sight of water or other substance produces similar attacks.

HISTORY.

Democritus gives a clear description of rabies occurring in animals 500 B. C., and Aristotle, in 322 B. C. states that the human species is exempt from infection by animals. The first description of its occurrence in man did not appear until 200 B. C. Since this time many ancient and modern writers have contributed to the literature on this subject. The best description in modern times appeared in 1850, by Trousseau.

The first record of the appearance of the disease in England is in 1026. In 1768 rabies was alarmingly frequent in Boston and in other towns in North America. In 1779 it appeared in Philadelphia and in Maryland, and in 1785 it was prevalent all over the northern states and spread to the south. In 1860 rabies was again prevalent in America, especially to the west.

The cause of the disease was first clearly discussed by Pasteur in 1882, who devised a plan of rational treatment.

DISTRIBUTION.

Such authorities as Virchow have denied the existence of hydrophobia in Africa, Greenland, Denmark and parts of South America and Asia. He, and many others, asserted that it was peculiar to temperate zones. With a temperature of 25 degrees below zero, an epidemic broke out among animals in Greenland in 1860. In Russia hydrophobia is common and is due largely to the frequency of wolf-bites. It is relatively rare in North Germany, owing to the provision requiring all dogs to be muzzled. It is more common in France. Isolated sporadic cases occur in all countries of Europe, and, from time to time, epidemics varying in severity. It is usual for the malady to remain lurking in certain districts or countries. Thus foci of rabies are common in certain parts of Russia and of France, but rarer in central Europe. In Great Britain more or less extensive epidemics of rabies have occurred at different times. Since 1897, owing to the muzzling order, the disease has greatly diminished. During 1899 no human being died of hydrophobia in England or Wales a result which had not obtained during the previous fifty-one years. For the ten years ending with 1900, Tatham tells us that there was an annual average of 29 deaths from the disease. In the year 1900 11 cases were reported; this outbreak of rabies was confined to a district in the southwest of Wales. No death occurred in England from hydrophobia in 1903. For the period from 1899 to 1904 there were 2 deaths. Rabies is, however, more frequent in Ireland.

Salmon[1] shows that hydrophobia is of more frequent occurrence in the United States than is generally known. In the vital statistics of the census of 1890 the same author records 143 deaths from thirty states. The statement of Boulanger to the effect that no part of the world is free from the disease is probably correct.

That rabies is ever prevalent and widely scattered throughout the Philippine Archipelago is well known to residents of these islands, yet no cases could be found recorded in medical literature as occurring here. The scrawny, half-starved native dog offers little resistance to the inroads of any disease to which he is subject. He is found throughout the islands in great numbers, and his appearance would suggest a cross between a cur and some wild species of canidæ.

During a residence of about eight years in various parts of the islands I have become personally aware that rabies is a prevalent disease among native dogs, that people are frequently bitten by these animals, and that hydrophobia in man is not a rare result of such bites. I have a personal knowledge of 13 persons dying of the disease and 19 others who were bitten but did not develop the disease so far as could be learned. One of these patients applied to me for treatment at St. Paul's Hospital in March, 1906, four days after being bitten, suffering from a wound about the face. The patient developed hydrophobia sixty-seven days after being bitten, as near as could be learned, and died of the disease in five days after the first symptoms appeared. During the months of January and February, 1907, 6 persons were seen who were bitten by dogs said to have been mad.

During February, this year, the body of a dog which had bitten two persons, and was supposed to have been rabid, was brought to the government laboratory for examination. Dr. Strong states that no characteristic changes or Negri bodies were found in the central nervous system, and that rabbits inoculated had not developed any symptoms of rabies, February 27, 1907, nineteen days after inoculation.[2]

It is common in pueblos and barrios to see natives chasing mad dogs (*manga asong olol*, or *perros rabiosos*, as they are called in Tagalog and Spanish respectively) with long bamboo poles. The animals are killed in this way.

Dr. M. Murciano, Tarlac, Tarlac Province, Philippine Islands, in a letter to me, states it as his belief that rabies and hydrophobia are much more common in the islands than is generally known, and says: "The natives have great dread for rabid dogs and medical aid is seldom sought in the outlying districts, for they have come to know that hydrophobia, like the bite of the camamalú, a native snake, is certain death. For this reason but a very small portion of the cases become known to the health authorities." He continues: "Five of my own deer dogs and 14 dogs belonging to others have become affected with rabies, from my own personal knowledge, since 1900, and were killed by my direction."

Dr. Murciano has resided in the islands twenty-two years, was, under the Spanish Government, medico titular, Tarlac Province, is a close observer, a great deer-hunter and dog-fancier. Dr. Murciano's dogs are valuable, imported animals, and it is quite certain he would not have slain them unless he was convinced that they were affected with rabies.

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[1] U. S. Dept. Agric., Year-Book, 1901.

[2] Since this paper was written, cases of rabies in dogs have been confirmed by pathologic examination.

According to native tradition, the islands were once free from this dread malady, and the infection was brought to these shores by seaweed, wreckage, etc.

With a view to collecting statistics on the prevalence of the disease, access was had to the records of the insular Board of Health and a circular letter was sent to every practicing physician in the Philippine Islands, including the army surgeons, early in February, 1907, enclosing a post-card for reply. These letters amounted to 521 in all, and 140 replies were received. From the records of the Board of Health,[3] for the years from Sept. 1, 1903, to June 30, 1906, in Manila, 2 deaths; 1904, 45 deaths in sixteen provinces, and for the year 1905, 44 deaths occurring in twenty-six provinces, making a total of 91 deaths from hydrophobia obtained from this source.

From the personal replies of physicians to circulars mailed (in addition to those reported to the Board of Health), 54 cases were gathered, which, with 13 deaths from my personal records, make a total of 158 deaths in human beings. Strange as it may seem, in reply to circulars sent out, but 17 persons bitten by dogs are reported in whom the disease did not develop. These, together with my 19 cases, make a total of 36 cases in which no symptoms of the disease were noted following the bite, so far as traced. This shows that the disease developed in only 1.16 per cent. of the total number of persons bitten. Of course, it is not known what percentage of the dogs inflicting these bites were actually rabid. The Board of Health only reports cases of deaths from the disease. As stated elsewhere, it is unusual for persons bitten to seek medical treatment, and few of those who develop the disease do so. My cases cover a period of from Oct. 1, 1902, to date. The cases reported by physicians in reply to the circulars mailed embrace the period from 1883 to Feb. 28, 1907, but only 7 cases were reported prior to October, 1902. Generally speaking, therefore, the cases reported in this paper may be considered as having occurred between Oct. 1, 1902, and Feb. 28, 1907.

Cases of rabies were reported as occurring in 253 dogs 3 cats, 1 carabao, 1 cow, 4 horses, 2 pigs, 3 rats and 1 monkey.

Of the thirty-nine provinces, the Island of Mindanao (Moro Province) and the district of Manila, in the Philippine Islands, twenty-three were shown to have been infected by the disease, as follows:

Ambos Camarines, Bataan, Bulacan, Cagayan, Cebu, Ilocos Sur, Masbate, Misamis, Pampanga, Pangasinan, Union, Samar, Nueva Ecija, Negros Occidental, Sorsogon, Tarlac, Tayabas, Albay, Capiz, Cavite, Iloilo, Manila, Rizal, Batangas and Bohol.

Thus, it will be seen, sixteen provinces escaped the disease, according to reports.

Since I mailed the circular letters requesting information regarding the prevalence of the disease I have received several telegrams from physicians addressed, inquiring if virus for protective inoculation was available in Manila, and requesting to be supplied, stating that they had patients under treatment who were bitten by rabid animals.

ETIOLOGY.

The idea that hydrophobia is less prevalent in winter than in summer is not correct. Suzor reports twice as many cases in March, April and May as in the summer months. Salmon, in a total of 14,000 cases, found June to be the highest month, and, though there were more cases reported from April to September, yet the difference is not sufficient to be of etiologic importance.

About two-fifths of all cases in man are in patients under fifteen years. More men and children than women are affected, owing to the mode of life and nature of the clothing worn protecting the latter.

The disease is never spontaneous, but is usually communicated through the bite of a rabid animal and the consequent inoculation with the virus that is present in the saliva. All domestic mammalia are susceptible to rabies, although, from the habits of the animals, the disease is most likely to occur in dogs and cats. Birds are more refractory than mammals, especially to bites, but they can contract the disease through inoculation. In the great majority of cases the disease is communicated to men by the bites of rabid dogs, occasionally of cats, and in rare instances wolves and foxes. Goats, hyenas and jackals are said to suffer at times. In 1888 a number of deer from the royal herd in Richmond Park, near London, suffered from the disease and were studied at the Brown Institution. Rodents may suffer from the malady. Dr. M. Murciano, Philippine Islands, reports a case in a carabao (water buffalo) acquired from the bite of a rabid dog. Hydrophobia sometimes occurs in the cow, and is communicated by inoculation to the rabbit, horse and pig. In the western part of the United States the skunk (mephitis mephitica) is said to be very liable to the disease. A species of the skunk is found in the Philippines. One was recently killed in the grounds of a private residence in Manila. Persons sleeping in the open air, or tents which the animal can enter, are liable to be bitten. All are capable of communicating the malady to man. Although the cause of the disease has not been determined with certainty, it is known that the virus has a special affinity for the nervous system and is found in the saliva but not in the urine or blood.

Bertarelli has shown that the virus reaches the dog's salivary glands by way of the nerves and not through the blood vessels. Pasteur has found the poison abundantly present in the nerve centers, and has transferred the disease by taking bits of brain substance or medulla, derived from an infected animal, and inoculating them into healthy subjects.

The disease can be passed from animal to animal, from an animal to man, and from man to an animal, and it can be passed on from one to the other without rapidly losing its virulence. The transfer is usually made through some solution of continuity, commonly a bite, but it has occurred through a pimple, a very slight abrasion of the skin, by the animal licking the part, and it is said to have been transferred by the milk of a nursing mother.

Absorption of virus has taken place through healthy unabraded mucous membrane—nose and eye. It may be conveyed from the mother to the fetus.

Infection from bites on the back is slowest, owing, no doubt, to the clothing and the skin being thick and nerves few. With a thorough cleansing of the bite in this location and cauterization the person is more likely to escape the disease.

The virus of rabies is especially abundant in saliva and in the nervous system, both central and peripheral. There is some discrepancy among the testimony of observers as to whether the virus is present before the symptoms of the malady are well established. According to Nocard and Roux, the saliva of the dog may be virulent three days before the onset of the symptoms; according to Dowdeswell, the central nervous system is not virulent until the animal shows symptoms of the malady. All parts of the nervous system are virulent at the time of death, but in the earlier stages of the disease both bulb and cerebrospinal fluid are virulent. The blood, the lymph, the muscles, the liver and such secretions as the urine and seminal fluid are usually stated not to contain the virus. On the other hand, such glands as the salivary, the lachrymal, and the pancreas contain the virus, and it has also been found occasionally in the milk.

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[3] Reports of the Bureau of Health for the Philippine Islands are not completed for 1906; completed reports from seven provinces show twelve deaths from hydrophobia. These deaths should be added to the statistics presented in the foregoing.

It is possible that the disease can be acquired by absorption through the gastrointestinal tract. Some animals, fed on carcases of animals dead of rabies, have died, while others have been unaffected. It is probable that an abrasion of the gastrointestinal tract is necessary for infection.

It has been asserted that the disease may arise from the bite of a healthy dog, but this is not the case. The mistake has arisen from the fact that a dog may communicate the disease while suffering from the initial manifestations of the illness, and before the characteristic symptoms have developed.

A case is on record in which a man contracted the disease by unloosening with his teeth a knot in a rope with which a mad dog had been tied. Dried saliva of a rabid animal retains its virulency for some days.

Cases are on record of hydrophobia having been acquired through a wound received during postmortem dissection of a rabid animal.

The virus is destroyed when exposed to a temperature of 50 C. for one hour and 60 C. for half an hour. Five per cent. solution carbolic acid, 1 to 1000 solution of bichlorid of mercury, acetic acid and permanganate of potash destroys the virus in the same length of time.

The most remarkable fact about the virus of rabies is the power that it possesses of increasing in the nervous system. In this respect it is unlike snake-bite, after which symptoms come on in excessive rapidity. It is found in the peripheral nerves and may be present in the suprarenal bodies. There is some evidence to show that the virus inoculated by bite reaches the central nervous system through the nerves, and for this reason lacerated wounds involving nerves are more likely to be followed by the disease. It is possible that the virus may be conveyed from the peripheral nerves to the central nervous system through the lymphatics.

Wounds about the face and head are especially dangerous; next in order in degree of mortality come bites on the hands, then injuries on the other parts of the body. The relative order is, no doubt, greatly dependent on the fact that the face, head and hands are usually naked, while other parts are clothed. It would also appear that the mortality depends, to some extent, on the richness in nerves of the part injured. Punctured wounds are said to be most dangerous, and lacerations are fatal in proportion to the extent of the surface afforded for the absorption of the virus.

The disease exhibits some resemblance to tetanus, in which it has been shown that the principal phenomena of the malady are produced by the toxic substances elaborated by the specific bacillus.

The bite of the wolf is said to be most dangerous, and the following in diminished severity in the order named: cat, dog and other animals.

Woodhead states that only 16 per cent. of those bitten by rabid animals become victims of the disease, while other authorities state that when no preventive measures are adopted, half or even two-thirds of those bitten escape. There is great difficulty in determining this question with accuracy, owing to the difficulty of obtaining evidence that the dog or other animal reported to be rabid was really so.

Horsley says that more than 15 per cent. of persons bitten by dogs become mad. The mortality of those bitten by wolves is not less than 40 per cent. According to Babes, the mortality of the latter is from 60 to 80 per cent. The reason for the wolf-bite being so dangerous is its severe lacerated nature. The bites from cats are more dangerous than those from dogs owing to the tendency of the cat to "fly" at and bite exposed surfaces, such as the face and hands.

The disease is usually communicated by a rabid animal wandering at large, often over great distances, and biting other animals, such as dogs, cats, horses and cattle.

FREQUENCY.

Rabies is not a common malady in animals, and hydrophobia is rare, comparatively speaking, in man. Sporadic cases are met with in animals in every large city during the year.

PATHOLOGY AND MORBID ANATOMY.

The pharynx, mouth, fauces and esophagus may be injected and the latter very edematous. The tongue is often swollen and of a dark red color and vesicular papules are noted on its under surface about the opening of the salivary glands. Pulmonary congestion is frequently seen, the mucous membrane showing points of hemorrhage. The stomach and intestines are congested and may present hemorrhagic erosions or even ulcers. The stomach and intestines usually contain no food, but, in animals, may contain numerous foreign bodies, such as rags, manure, pieces of wood, straw, stones, coals, hair, hay, etc. The spleen is congested and lungs engorged with blood and there are numerous petechial hemorrhages on the surfaces of the serous membranes.

Rabies can never be excluded by necropsy, as the animal may have been killed, and frequently is, on suspicion of having the disease, and at such an early stage that none of the postmortem phenomena of rabies are present.

In the dog the teeth are often broken and the tongue and buccal mucous membrane lacerated.

The most characteristic naked-eye pictures in postmortem examination are congestion of the fauces, larynx, trachea and stomach and fluidity of the blood. There are signs of congestion of the salivary glands. In some cases congestion of the central nervous system, more especially of the medulla, is visible to the naked eye.

The brain, medulla and spinal cord show small hemorrhages and large numbers of small round cells in the perivascular lymph spaces and around the motor ganglia cells, and progressive degeneration in the spinal nerve cells appear, consisting in chromatolysis and overgrowth of the nucleolus. There may be congestion of the peripheral nerves and sympathetic, and degeneration of the nerve-sheath and enlargement of the axis-cylinder.

Fitz has observed blood extravasation into the perivascular spaces of the brain. Soft thrombi occasionally fill the cerebral vessels, being most marked in the veins. The clots lack firmness and are of a dark color.

Changes in the nervous system have been carefully studied by Kolesnikoff, Balzer, Schaffer and Benedikt. The *tubercles rabiques* were later described by Babes and consist of pericellular accumulations of embryonal cells which finally take the place of the destroyed cell. The atrophy, inversion and destruction of the cerebrospinal, sympathetic, peripheral ganglia and plexiform ganglia of the pneumogastric nerve have later been described by Nelis and Van Gehuchten; they consider these changes diagnostic of rabies. These changes are brought about by new-formed cells derived from the capsule, which appear between the cell body and its endothelial capsule. These new-formed cells increase in number, invade the protoplasm of the nerve cell, and finally completely occupy the entire capsule.

Clifford Allbutt and Gowers have described an accumulation of leucocytes around the vessels and an infiltration of the adjacent tissue of the bulb with similar cells. Gowers says that the changes are most intense in the hypoglossal, glossopharyngeal and vagal nuclei.

McCarthy and Ravenel have studied twenty-eight cases of rabies occurring in dogs, rabbits and other animals, and found these changes in all but one case. The plexiform ganglia were affected in all the cases in which positive results as to the presence of rabies were obtained. In twenty-one cases the bulb was examined for the tubercle of Babes and positive results obtained in nineteen. Gordon concludes that the presence of mast cells corroborates his view that the spinal ganglions are the places of predilection for rabic virus.

In rare instances there may be a cloudy swelling of the kidneys.

BACTERIOLOGY.

The micro-organism of the disease has not yet been determined, though there is little doubt but that it is some form of organism capable of multiplying in the tissues and producing a toxic substance. It is possible that the bodies discovered by Negri constitute the virus. They are irregular in shape, usually varying from four to ten microns in size, appear in the central nervous system and are probably protozoa. Rivalta, Ferran, Foll, Spenelli and others have described a bacillus. Memo thinks that he has proved it to be the specific organism and says that he has been successful in producing the disease in rodents, dogs, and birds with the typical differences characteristic of each.

Bertarelli states that in more than a thousand tests the Negri bodies were never found in animals free from rabies: they were always found in infected animals with three exceptions. Their chosen site is the hippocampus major. These bodies are also found in the Purkinje cells in the cerebellum. These findings are confirmed by Poor. Bongiovanni, in researches on animals infected with street virus, constantly found Negri endocellular bodies, but these bodies were not found in rabbits infected with fixed virus. Materozzi, of the Catania Institute of Experimental Hygiene, and Bonne, of the Berlin Institute for Infectious Diseases, have also found these bodies constantly, but the latter does not believe them to be of a parasitic nature. They are found in the pyramidal cells of the cortex, cells of the pons, Gasserian ganglia, spinal ganglia and spinal cord; also in the protoplasm and occasionally in the processes of nerve cells. They have not been seen in the nucleus, but are frequently in immediate contact with it.

CLINICAL HISTORY.

The average period of incubation in the Philippine Islands would seem rather long, based on reports received. One authentic case has been reported with an incubation of ten days, and several other unsubstantiated cases of less time, but the latter have been excluded. The three longest authentic periods of incubation reported were eight, nine and ten months.

DIAGNOSIS.

Space will not permit a discussion of this subject. The following points should, however, be borne in mind:

Occasionally a neurotic or hysterical person, after being bitten by a dog or even after reading or hearing a description of hydrophobia, develops symptoms which resemble it. Burr reports an interesting case of the kind from Osler's clinic. The characteristic symptoms may be present, but they are comparatively mild and the affection does not develop. It should be remembered that pseudohydrophobia or lyssophobia, as the state is called, often develops as early as twenty-four or forty-eight hours after the exposure, and may not develop until a few months or even later; whereas true hydrophobia rarely develops in less than fourteen days. It usually runs a longer course than the true disease and recovery is the rule. He is apt to show a disposition to bite, which is very rare in true hydrophobia, and if he barks, growls or snaps, it is an imitation and not the true disease. Threats, inhalations of amyl nitrate and powerful electrical currents speedily cure the ailment.

Dr. A. T. Short, surgeon of the Coast and Geodetic Survey boat *Marinduque*, in replying to my circular from Ormoc, Leyte, Philippine Islands, reports a case of lyssophobia which occurred in Libmanan, Camarines Sur, P. I., in 1901, while Dr. Short was stationed there in the military service. In a house adjoining the military hospital there occurred a case of hydrophobia, the patient dying. In the same house lived a lad of eighteen years, who had been bitten by a dog two years previously. He developed the usual symptoms of pseudohydrophobia, owing, no doubt, to fright, and recovered.

Tetanus is differentiated from true hydrophobia by the presence of marked lockjaw in the former disease, and by the fact that in tetanus there is no dribbling of saliva and no expression of terror. The convulsions of tetanus are more tonic than in hydrophobia.

Landry's paralysis may require exclusion in the diagnosis of the paralytic form of hydrophobia.

DIAGNOSIS OF THE DISEASE IN DOGS.

The great disadvantage of the experimental method of diagnosis is the fact that, on an average, some three weeks are necessary in order to determine with certainty the presence or absence of rabies.

It is, therefore, of the utmost importance that the public should be taught not to kill rabid animals which have bitten human beings, as is now the custom in the Philippine Islands, and other places for that matter, but to isolate the animal and study his symptoms with the object of determining the treatment of the injured person. After the clinical diagnosis has been made the affected animal should be killed, and the clinical diagnosis confirmed by at once removing the brain and cord for examination for the presence of certain well-known changes in the nervous system, described in the foregoing under "Pathology and Morbid Anatomy," as well as for Negri bodies. The finding of the characteristic changes of the nervous system, Babes tubercles, etc., together with the Negri bodies, is considered sufficiently conclusive to warrant the institution of the Pasteur treatment at the earliest possible moment.

Mills has said that, however suggestive the symptoms following a dog-bite, the given case can not be assumed to be a case of hydrophobia until other possibilities are excluded.

PROGNOSIS.

No case of recovery from true hydrophobia, allowed to develop in man, is on record in which there was undisputed evidence that the diagnosis was correct. Reported cases of alleged recovery from this disease may have been of the hysterical form.

TREATMENT (HISTORICAL).

Thorp states that the powdered seeds of a species of strychnos, probably *Strychnos nux vomica,* have for several hundred years been used in China as a remedy for hydrophobia—probably on the principle of "similia similibus curantur." The dose, expressed in terms of the alkaloid, would be from 0.002 grams to 0.0036 grams.

There are many curious remedies used by the natives of the Philippine Islands, one of which is to burn the hair of the rabid animal inflicting the bite and apply the ashes to the wound. The brain is then incinerated and its ashes applied in like manner.

PROPHYLAXIS.

The treatment of hydrophobia is entirely in the line of preventive medicine, for once the disease is developed curative measures are not possible. By muzzling dogs, as is done in parts of Germany and England, the disease can be practically eradicated.

The local treatment of the bite is of great importance and should be instituted at once after its infliction.

1. A tourniquet should be applied if the bite be on an extremity.
2. The limb should be thoroughly scrubbed about the wound with green soap or other soap.
3. The wounded part should be excised as in tetanus, if it can be done without injuring important structures or causing great mutilation. If the wound can not be excised—only anatomic reasons, and not fears of scars, etc., should deter us from this measure—and is a punctured wound, it should be converted into an open wound by free incision.
4. The wound should be scrubbed again with green soap or other soap and then with bichlorid of mercury, 1 to 1000.
5. Pure carbolic acid and then fuming nitric acid should be applied. If these remedies are not at hand, other strong acid, and the actual cautery may be used, but nitric acid is preferable to the actual cautery.
6. The wound should be left open and packed lightly with gauze moistened in bichlorid of mercury 1 to 1000 and wet dressing of bichlorid of mercury 1 to 1000 applied for twelve hours, and then dry aseptic dressing, which usually does not require to be molested until the wound is healed, unless the nature of the wound has required extensive excision, when it must require time to heal, by granulation, and may require several dressings.

Cocain may be used hypodermically, if necessary, for excision or incision of the wound, and may be applied to the wound surface before cauterization.

The bite should never be sucked for fear that the one who sucks it may absorb the poison through an abrasion, and then, too, we must remember that the virus can be absorbed through the healthy mucous membranes.

If Bier's cups are at hand, suction may be thus artificially applied before and after the wound is incised or excised. If the bite be on an extremity, the Bier hyperemic treatment with the elastic bandage might also be tried.

It may be contended that the above treatment is unnecessarily severe and that after excision mild antiseptics alone are required, but when we consider the possibility of infection from the contact with the excised portion, that the disease is sure death, and that this treatment, if applied at once, offers a fairly good chance of recovery, it is believed that one is warranted in carrying it out, and that any sane patient will submit to it when the matter is properly put before him. It is unnecessary to keep a wound so treated open five or six weeks. It should be treated like any other open wound—packed and allowed to heal from the bottom. I have treated about twenty cases in this way and have had only one death, that in the case of a boy who applied for treatment several days after being bitten. How many of these patients were bitten by rabid animals is, of course, unknown.

Some may contend that the tourniquet is unnecessary, as the virus is transmitted by the nervous tissue alone. Blood inoculations in large amounts have caused the disease: therefore, in the present knowledge of the disease, it is well to apply the tourniquet.

Ballinger states, from statistics collected, that of all persons bitten, 47 per cent. suffer and die from hydrophobia. When wounds have not been treated, 83 per cent. succumb. When cauterized—some patients not very promptly—33 per cent. die.

PREVENTIVE INOCULATION.

Where there is any reason to believe a person has been bitten by a mad dog, the preventive inoculation treatment of Pasteur should be administered as soon as possible.

Warren described the "protective inoculation" as follows: "The patients are first inoculated with a cord fourteen days old, and the inoculation is repeated daily for nine days, each time with a cord one day fresher. In winter the oldest cords used are five days old, and in summer, cords that have been drying for four days are also employed."

The treatment is absolutely harmless, if properly employed, and is almost universally attested. Pottevin states that 17,395 cases were treated at the Pasteur Institute, Paris, between 1886 and 1895, and there were but 139 deaths. If the average mortality from inoculation is placed as low as 20, instead of 139 deaths, there would have been approximately 3,476 deaths.

Since the commencement of the Pasteur preventive treatment about 55,000 persons have been inoculated, with an average mortality of 0.77 per cent (Ravenel).

In the New York Pasteur Institute, 313 West Twenty-third street, under the directorship of Paul Gibier, of 1,367 cases treated during the decade ending Jan. 1, 1900, 19 patients died, a mortality of 0.66 per cent. The patients should be sent to the Pasteur Institute at once, since delay tends to diminish the protective power of the treatment. It is, of course, useless after the malady is well developed.

ANTIRABIC SERUM.

Under this heading in *Progressive Medicine* for December, 1905, is the following statement:

> In spite of the fact that hydrophobia has been known to be a preventable disease for many years, the belief in the necessity of having the prophylactic treatment carried out at an institute, often situated at a great distance from the patient's home, and not infrequently entailing great expense, has in many instances prevented the employment of this procedure. That this is not necessary is shown by two cases reported by M. Solis-Cohen, who carried out successfully the treatment in the patients' homes.
>
> The Pasteur Institute of the Department of Health in New York will arrange for a course of treatment for the individual case on receipt of the following data:
>
> 1. Name and age of the patient.
> 2. Location of bite, with its treatment.
> 3. Any information bearing on the diagnosis of the animal inflicting the bite.
>
> The institute also requires a brief report on the patient's condition two weeks after the end of treatment. If no symptoms have developed two weeks after the cessation of all treatment, the patient is considered out of danger. Angny, in discussing Cohen's paper, stated that he had also administered the Pasteur treatment in a patient's home.

Section 546 of the Laws of Georgia, 1906, empowers and directs the State Board of Health, as soon as practicable, to arrange for the preparation and manufacture in its laboratory in the capital, material necessary for the treatment and prevention of hydrophobia according to the method of Pasteur, and to keep constantly on hand the necessary material, sufficient in quantity, to meet the requirements that any exigency may demand, and to distribute the same free of cost to physicians and surgeons over the state for the treatment of such of their patients as have been bitten by animals suffering with rabies.

The injection of diluted virus prepared from the bulb into the veins is stated to confer immunity on the horse, but does not do so in the case of dogs and rabbits.

CONCLUSIONS.

1. It is thought that it has been conclusively proved that hydrophobia is sufficiently prevalent in the Philippine Islands to warrant the government in providing the necessary means for placing the Pasteur treatment within the reach of all by making the virus available in the larger centers in the islands.
2. The virus should be furnished, free of cost, to all physicians having persons under their care who have been bitten by rabid animals.
3. The government laboratories could prepare and distribute the virus.
4. When the Pasteur treatment has been made available popular instruction regarding the disease in animals, its transmission to man, the immediate treatment of the wound, the necessity of making a diagnosis, and what should be done to enable the health authorities to do so, should be undertaken by the insular board of health and through the public schools.
5. When it is known by the inhabitants that a safe, and, to a considerable extent, a sure cure for the disease is available, there will be a great increase in the number of cases reported.
6. Undoubtedly, in time to come, the government of the Philippine Islands will make available to all the modern prophylactic treatment of the disease through the government laboratories, and if the statistics here presented succeed to any extent in shortening that time I shall feel well paid for my trouble in collecting the cases presented in this paper.

In this excerpt space will not permit of a detailed description of the Negri bodies or of the technic usually employed for demonstrating them. For like reason remarks on the clinical history of the disease in man and animals, and on diagnosis, are omitted. Little that is new could be said under these headings.

I gratefully acknowledge cases reported by the following: A. Anguita, S. Suzuki, Diaz Perez, Ramon Lopez, Fernando Calderon, D. del Val, M. Garcia del Rey, S. Diaz Perez, Manuel Gomez, R. E. L. Newberne and Francisco Castaneda, Manila; Simeon Carlos, Roberto Toledo, C. Pineda, Andres L. Luciano, E. Santos, Pedro Joven and Antonio Alvendia, Pampanga Province; Tranquilino Gonzalez, Iloilo; J. Victoriano y Kosca, Matias Aznar and V. Solis, Cavite; Jose Mascunana, A. Ubalde, Tayabas; Octavio Amado, W. A. Wickline, Rizal; Trinidad Moreno, Batan; Ramon L. Lopez, Pio Valenzuela, Bulacan; M. Murciano, Tarlac; Lope de la Rama, Negros Occidental; A. S. Short, Coast and Geodetic Survey boat *Marinduque*.

A COMPARISON OF ALCOHOLIC AND WATERY EXTRACTS IN THE SERUM DIAGNOSIS OF SYPHILIS.*

JOHN W. MARCHILDON, B.S., M.D.
Instructor in Pathology in the Medical Department of St. Louis University.
ST. LOUIS.

A new phase in serum diagnosis was introduced by the determination that syphilitic antigen is soluble in alcohol and that such alcoholic extracts could be used in the same manner as physiologic salt solution extracts in the serum diagnosis of syphilis. This discovery was thought at first to be only of theoretical value[1] in throwing light on the nature of the chemical substances concerned in the binding of complement, since it showed by the solubility of these substances in alcohol that they were fat-like substances or lipoids.

Since the use of other substances like lecithin, sodium oleate, etc., as antigen might, through failures, reflect on the practical value of the reaction for the serum diagnosis of syphilis, Wassermann[2] insisted that the results of his reaction could be relied on only when extracts made with physiologic salt solution were used.

The variability of these extracts even when kept on ice, the possibility of their failure to bind complement with luetic sera from day to day, makes their use unsatisfactory and laborious.

The advantages to be derived from the use of alcoholic extracts are many. They are more easily made than watery extracts, since they do not need to be put in a shaking machine for so long a time. They do not require so much time to sediment and they clarify better. The upper clear portion alone is used so it is never necessary to centrifuge them. They may be kept at room temperature and in general retain their power for a longer time.

The following represents an attempt to learn whether the results obtained from the use of alcoholic extracts are equal to or possibly better than those of physiologic salt solution extracts. The question for discussion may be separated into three parts:

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* From the Laboratory of the First Medical Clinic of the University of Berlin, Geheimrat His, Director.

[1] Landsteiner, Müller and Pötzl: Wien. klin. Wchnschr., 1907, No. 50.

[2] Internat. Cong. for Int. Med., Vienna, 1908; München. med. Wchnschr., 1908, No. 17, p. 928.

1. Will a serum react positively with a physiologic salt solution extract and negatively with an alcoholic extract, and vice versa?

2. Do non-syphilitic sera react positively?

3. If so, will the same parallel be established when alcoholic extracts are used?

The proper answering of these questions has an important bearing on the practical value of the reaction for the serum diagnosis of syphilis and necessitates, of course, the application of the test to as large a number of sera as possible.

Physiologic salt solution extracts of syphilitic liver and alcoholic extracts of syphilitic liver and normal human heart muscle were used throughout these reactions.

The serviceability of the extracts was tested first. An extract, in order to be serviceable, must in proper dosage react positively with a certain number of sera coming from genuine syphilitic patients with manifestations, and it must react negatively with a certain number of sera from non-syphilitic individuals. A further demand is that it must not of itself alone bind complement.

In the examination of each unknown serum for diagnosis controls are needed. The purpose of these controls is to compare the reaction of the unknown serum for diagnosis with that of known positive and negative sera and to show that the extracts do not alone bind complement. These controls are to be made in every reaction in order to show whether any change has taken place in the extracts from day to day, as sometimes occurs. Every serum was tested with the three kinds of extracts explained above.

1. In more than 150 serum examinations carried out in this manner the results have always been parallel. When a serum reacted positively with a physiologic salt solution extract it invariably reacted positively with the alcoholic extracts and vice versa. Not only were the reactions of alcoholic and watery extracts parallel when fresh sera were used, but also in the case of old sera which were formerly positive and later sometimes react negatively, as noted by Fleischmann and Michaelis as well as by others.[3] In a word, in no case was a serum positive with one serviceable extract and negative with another.

2. To answer the second question, as to whether any non-syphilitic serum would react positively, demands a consideration of the cases from which the sera were obtained.

For this work the blood was taken from two sources — from patients and from autopsies. L. Pick and A. Proskauer[4] have pointed out that blood serum obtained at autopsy is of equal value with normal blood in the serum diagnosis of syphilis. To this end I obtained blood from seventy-five autopsies from the pathologic department of the Krankenhaus Friedrichheim of Berlin.[5]

A consideration of the cases submitted for examination permits the following subdivisions:

I. CASES WITH A HISTORY OF SYPHILIS OR HAVING A STRONG SUSPICION OF SYPHILIS, AND GIVING A POSITIVE SERUM REACTION.

1. Cases of severe arteriosclerosis and heart insufficiency	4
2. Cases of tabes and paralysis	8
3. Cases of hydrocephalus and meningitis	3
4. Cases of aneurism	5
5. Cases of syphilis, with history of infection, symptoms present	9
6. Cases of syphilis, with history of infection, no symptoms	4
7. Cases of nose and throat diseases of a specific nature	8
8. Eye cases of specific character	2
9. Suspicious cases, gynecologic	3
10. Cases with obscure symptoms and findings belonging to internal medicine	6
Total	52

In each of these cases giving a positive serum reaction the clinician or the pathologist either found signs of actual syphilitic disease or was led to believe that the present trouble was due to syphilis.

II. CASES WITH NO HISTORY OF SYPHILIS AND NO SUSPICION OF LUETIC INFECTION, AND GIVING A NEGATIVE SERUM REACTION.

1. Cases of tuberculosis	21
2. Cases of sepsis and septic infections	17
3 Tumors	12
4. Cases of arteriosclerosis, nephritis and heart lesions	13
5. Cases of scarlet fever	3
6. Cases of delirium tremens	2
7. Cases of rachitis	2
8. Case of echinococcus cyst	1
9 Case of Hodgkins' disease	1
10. Case of pernicious anemia	1
11. Case of whooping cough	1
12 Cases of typhoid fever	2
13 Case of insanity	1
14. Cases of nose and throat diseases	14
15 Cases of eye diseases	6
16. Cases belonging to internal medicine	3
17. Healthy children	2
Total	104

It is important to note that sera obtained from patients with tuberculosis of the lungs, with carcinoma, and with sepsis, for the largest part, gave negative reactions. The few exceptions will be explained later; the findings agree largely with the findings of Elias, Neubauer, Porges and Salomon,[6] who report weak reactions in these diseases. In this connection it is of interest to refer to a specimen of blood serum obtained from a case of tuberculosis in the wards. A serum taken from a young woman who had had several operations for bone tuberculosis of an atypical character gave a positive result. Later the clinical diagnosis of syphilis confirmed this finding. All the other cases of tuberculosis, on the contrary, proved negative.

III. CASES WITH A POSITIVE HISTORY OF SYPHILIS AND GIVING A NEGATIVE SERUM REACTION.

1. Cases of syphilis having been treated	4

Fleischmann and Butler[7] and others have already emphasized the fact that syphilitic patients under treatment frequently react negatively.

IV. CASES WITH NO HISTORY OR SUSPICION OF SYPHILIS AND GIVING A POSITIVE SERUM REACTION.

1. Total number of cases examined with no history or suspicion of syphilis	107
2. Cases giving a positive reaction	4

The four cases giving a positive reaction are as follows:

1. Carcinoma of kidney	1
2. Appendicitis and sepsis	1
3. Typhoid fever	2

The first case was one of a very large carcinoma of the kidney with metastases, at autopsy. The patient was a woman of 40 years who had been a prostitute. No history or signs of syphilis, however, could be obtained.

There were thirteen cases of carcinoma examined, of which one gave a positive serum reaction.

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[3] Dermat. Centralbl., 1908, No. 8; Berl. klin. Wchnschr., 1907, No. 38.

[4] Med. Klin., 1908, No. 15.

[5] This courtesy was extended to me by Dr. Ludwig Pick, pathologist to the institution.

[6] Wien. klin. Wchnschr., 1908, No. 18.

[7] Fleischmann, Paul, and Butler, William J.: Serum Diagnosis of Syphilis, The Journal A. M. A., Sept. 14, 1907, xlix, 931.

Specific infection could not be accounted for in the case of appendicitis which went to autopsy from perforation of the appendix and peritonitis. The patient was a young man, married, with two healthy children Eighteen cases of appendicitis and sepsis were examined in all, and only the one mentioned above gave a positive serum reaction.

The two cases of typhoid fever went to autopsy the same day and showed extensive lesions of typhoid and septic infection. Syphilitic infection could be practically excluded. Typhoid cases examined in the wards for control gave negative serum reactions.

The present work shows, as has already been noted by Weil and Braun,[8] that a positive Wassermann reaction may be given not only in syphilis but also in other conditions, such as typhoid fever, carcinoma and septic infections. In these cases in which a positive serum reaction was obtained, as these authors have described, and in my own cases, the pathologic processes, such as multiple metastases in carcinoma, and the last stages of sepsis in typhoid and appendicitis, were very far advanced.

Moreover, in these cases with no suspicion of syphilitic infection a positive reaction was given not only by the physiologic salt solution but also by the alcoholic extracts.

CONCLUSIONS.

1. Alcoholic extracts may be safely used in the reaction for the serum diagnosis of syphilis, because they in no way differ from watery extracts.
2. There are some non-syphilitic blood sera which give a positive Wassermann reaction. These sera, however, are so rarely met, and then only in such extensive pathologic processes, that they do not vitiate the clinical value of the reaction.

I extend my hearty thanks to Dr. Paul Fleischmann, clinical assistant in the First Medical Clinic of the University of Berlin, Geheimrat His, director, for the assistance and direction of this work.

3904 Laclede Avenue.

THE QUARANTINE OF SMALLPOX.*

H. M. BRACKEN, M.D.
Secretary and Executive Officer, Minnesota State Board of Health,
MINNEAPOLIS.

While all intelligent and unprejudiced thinkers who have had any experience in dealing with smallpox recognize the protective value of vaccination, the general tendency is to insist on quarantine as an additional safeguard against this disease. It is for us to consider:

1. What does quarantine accomplish?
2. Is it necessary?

Quarantine is an evidence of ignorance. As soon as the true cause of any disease is recognized attention is directed to its prevention in the first instance rather than to its suppression after the disease has appeared. For example, with tuberculosis we direct our attention to destroying the infectious agent rather than to quarantining the patient. Again, before the means of transmission of yellow fever was known the quarantine methods used in the attempt to control its spread were most rigid, but when the world came to know that only a mosquito could transfer yellow fever from an infected to a healthy person, quarantine was practically abandoned and attention directed to keeping mosquitoes away from the patients, to keeping them away from healthy individuals, and to the destruction of the mosquitoes capable of carrying the infection.

Consistency would suggest that we follow a similar course with all preventable diseases when we have learned how to control them. So far smallpox has been an exception to this rule. We have known for more than a hundred years how to prevent this disease, and yet quarantine of all those exposed to or associated with a smallpox patient, as well as the patient, is still the general custom. Public sentiment demands this, and too often the medical profession supports the public in this unjust demand.

To control any disease by means of quarantine we must restrain all infectious individuals during their entire period of infection. With smallpox this may be possible if the disease appears at the outset in virulent form and if municipalities are willing to bear the necessary expense of restraining all such individuals. But if the virulent form of the disease becomes epidemic, or if the disease prevails in mild type from the outset, practically nothing is accomplished through quarantine, for there will always be mild unrecognized or concealed cases at large during part if not the entire time of their illness. Under such circumstances, while the quarantine is a failure, it entails great expense on the public and on individuals. It also favors a continuance rather than a control of the disease, for it is conveying to the public a sense of safety that does not exist and thus encourages delay in vaccination in countries where compulsory vaccination is not enforced.

There is no objection to the isolation of smallpox patients, for we do not want the disreputable-looking creatures about. Those who are not protected by vaccination deserve no sympathy if they have reached mature years, and they, too, should be isolated or kept under rigid observation after an exposure to smallpox until it can be determined whether or not they are to develop the disease. To restrain or quarantine the immune, however, is an injustice which should not be tolerated.

Any one who will study without prejudice the course of smallpox must admit the protective value of vaccination. Why, then, is not every one protected? First, because people will not adopt such protective measures unless compelled by law so to do. Compulsory vaccination laws properly enforced will eradicate smallpox from any country.

Vaccination has been brought into disrepute by poor vaccine, by careless methods in vaccinating, and by the exaggerations and misstatements of the so-called antivaccinationists. It must be admitted that in some instances sore arms and even death follow vaccination, but when this happens the vaccinator is at fault rather than the vaccine, assuming that the vaccine is of good quality, as it should be in this country at the present time under government inspection. The production of all vaccine should be under some responsible governmental control. The punishment can not be too severe for placing on the market a vaccine that is not safe.

The vaccine may be ever so satisfactory, but if the vaccinator is careless or the vaccinated is not properly cared for, infection at the point of vaccination may follow. Such conditions are far more apt to occur in a country without compulsory vaccination laws than in one where such laws exist. Under compulsory vaccination laws the exact amount of vaccine needed can be determined in advance. If it is known that 40,000 births occur annually in a state, then that state should have an annual market for at least 40,000 vaccination points or tubes. The producer, knowing this fact, can plan for producing this amount under the most favorable conditions. Without compulsory vaccination laws the vaccine producer has *nothing to guide him in the* amount of vaccine to be produced. He must, therefore, try to keep a safe quantity on hand. If a smallpox scare arises there is at once a call for a large amount of vaccine. The producers' supplies will be exhausted and they will hasten to replenish, although the conditions for so doing *may be most unfavorable.*

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[8] Wien. klin. Wchnschr., 1908, No. 26.

* Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Careless methods of vaccinating should never be tolerated. They will exist, however, where there are no compulsory vaccination laws. A necessary accompaniment of compulsory vaccination is the public vaccinator, through whom the possibility of careless vaccination is reduced to a minimum.

Vaccination should be performed during infancy—by preference during the first six months of life. At this time the danger of infection at the point of vaccination is very slight indeed, for the child is living under ideal conditions. Still further, with compulsory vaccination laws the public vaccinator should choose his season for vaccinating. It is a well-recognized fact that vaccination should, if possible, be avoided during the hot summer months, both on account of the quality of the vaccine at that time and the condition of the individual to be vaccinated. In countries without compulsory vaccination laws vaccination is practiced only when the alarm signal is sounded. Children of school age are often vaccinated just before the opening of schools in the fall—the most undesirable season of the year from every point of view. The methods of vaccination in vogue in this country at the present time are such as to make us wonder that we do not have more infection following vaccination.

The antivaccinationists say that physicians are in favor of vaccination because of the fees they derive from it. This is absurd. A physician can not afford to vaccinate for the ordinary fee if he does it properly. He can make money on vaccinations only when he undertakes to vaccinate a great many people in a very short time—a kind of vaccination that should never be tolerated. Lady Mary Wortley Montague, in 1717, speaking of inoculation, said:

> I should not fail to write to some of our doctors [in England] very particularly about it if I knew any one of them that I thought had virtue enough to destroy such a considerable branch of their revenue for the good of mankind. But that distemper [smallpox] is too beneficial to them not to expose to all their resentment the hardy wight that should undertake to put an end to it.

The antivaccinationists do not look on protection against smallpox (vaccination) as did Lady Mary Wortley Montague on inoculation. Lady Mary said that the doctors would not inoculate for fear of reducing their business; the antivaccinationists say that doctors vaccinate to make money.

Vaccination should be free. The public vaccinators should be trained in their special work and should be careful and conscientious. Individuals should have the privilege, however, of choosing their own physicians as vaccinators if they wish, but such a private physician should vaccinate with as great care as he would do surgical work and should be paid a reasonable fee for his services.

Physicians have placed themselves under criticism by urging compulsory vaccination laws on legislators. The enemies of vaccination charge physicians with mercenary motives in giving such advice and the legislators too often listen to the ignorant ranters rather than to the scientifically trained physicians in such matters. Why *should physicians place* themselves in such an unenviable position? They should be satisfied with acting as educators, throwing the responsibility of legislation on the people themselves. As educators their influence should be against any attempt to control smallpox by means of quarantine.

In 1904, in the Conference of State and Provincial Boards of Health held in Washington, a committee was appointed to report on the advisability of the abandonment of isolation in the attempt to control smallpox. The argument of this committee was to be based on the following propositions:

> Whereas, In many parts of this country (at the present time) a mild variety of smallpox is prevailing, and first cases are quite generally unrecognized, thus making their complete isolation impossible and tending to spread the disease among the unvaccinated, and
>
> Whereas, The isolation of the many cases causes excessive expenditures in a fruitless attempt to restrict the spread of the disease, and
>
> Whereas, Isolation of smallpox patients is practiced chiefly for the protection of those indifferent or opposed to the only scientific means of preventing the spread of this disease, viz., vaccination; therefore
>
> *Resolved*, That a committee be appointed by this conference to consider this subject in all of its bearings, and report next year as to whether in states where the above described conditions exist the effort to control smallpox should not be confined chiefly to vaccination and revaccination, rather than to depend in part or in whole upon quarantine.

At the conference meeting of 1905 these propositions were thoroughly discussed, and while the majority of the state sanitary representatives were in sympathy with some radical action in favor of vaccination rather than quarantine as a means of controlling smallpox, no definite action was taken.

The Minnesota State Board of Health has taken a position favorable to vaccination and against any false teaching relative to the protective value of quarantine. It did this only after carefully considering the subject. It preceded the publication of its new regulations relating to smallpox by the publication of the following resolution:

> It having been established that smallpox will not occur in a well vaccinated community, and that all attempts to restrain this disease in a community not protected by vaccination by means of quarantine, will fail; that quarantine in a well-vaccinated community is unnecessary; that attempts to control the spread of smallpox by means of quarantine are unscientific, irrational, expensive and misleading; that in laying down strict rules for the quarantine of smallpox *sanitary* authorities are favoring unscientific and illogical methods for its control and are conveying false ideas as to the safety of the public, the Minnesota State Board of Health advises that after January 1, 1908, further attempts to control smallpox by means of quarantine shall be abandoned. *Meeting of the* board, Oct. 9, 1906.

The reason for postponing action on this recommendation until Jan. 1, 1908, was that time might be given those who wished so to do to provide for their *own and* others' protection through vaccination before adopting a change in regulations.

This action of the board greatly disturbed the antivaccinationists, who sent their agents through the state decrying the proposed action of the board months before the new regulations were made public. These regulations are as follows:

11. The local health officer having knowledge of, or having reason to suspect, the existence of smallpox, shall investigate, and at once place on the house where smallpox exists a sign setting forth the facts. This sign is to serve only as a warning to those who may wish to avoid the house, and not as an indication of quarantine. When the attending physician considers a smallpox patient as having recovered (no longer a source of danger) he shall report the fact in writing to the local health officer, who shall thereupon remove the warning card from the house. *The patient must not leave the house until after the removal of the warning card.*

12. The apartments occupied by a smallpox patient shall be deemed infected, and when vacated by death, removal or recovery of the patient shall, together with their contents, be thoroughly disinfected under the supervision of the local health officer.

13. Every physician shall immediately report to the local health officer, in writing, the name of every smallpox patient under his care, the state of his or her disease, and his or her place of residence. A report must be made for each case as it occurs in a family or household.

14. Every physician shall report in writing to the local health officer the death of any smallpox patient under his care within twelve hours thereafter.

15. The local health officer of any city, village or township must report within twenty-four hours to the secretary of the Minnesota State Board of Health all cases of smallpox occurring within his jurisdiction and the date of removal of the warning card.

When these resolutions were passed it was supposed that an old law was still in force which provided for the exclusion from school of unvaccinated children when smallpox prevailed in a community. It was thought that this would protect the young. It was found, however, that this law had been displaced by later legislation. The State Board of Health, at its regular meeting in April, 1908, passed the following regulations for the benefit of the unvaccinated:

17. Following an exposure to smallpox, every individual who can not show evidence of a recent successful vaccination or a recent attack of smallpox must be vaccinated within three days of the first exposure or placed under the same isolation restrictions as smallpox patients.

If smallpox prevails in a community, or if the disease appears in a school, all unvaccinated teachers and pupils must be excluded from school for a period of three weeks unless vaccinated within three days of first exposure. Failing to comply with this requirement, the school must be closed for a period of three weeks.

If smallpox appears in any class in any college in Minnesota, all unvaccinated teachers and students in the class must be excluded from recitations for a period of three weeks unless vaccinated within three days of first exposure. Failing to comply with this requirement, the classes attended by such teachers or students must be discontinued for a period of three weeks.

The board expected criticism from the laity for making such a radical change in its smallpox regulations, but it expected the support of the medical profession on apparently such a logical procedure. Strange to say, there were not only prominent physicians, but certain sanitarians, who criticised the board's action. The board still thinks it was right and trusts that other state boards will follow its example.

ABSTRACT OF DISCUSSION.

Dr. George W. Webster, Chicago: If a smallpox patient is isolated, but the nurse and family come in contact with the patient, and are allowed to come and go as they please, are they not as great a menace to the public as the patient, after he has partly convalesced?

Dr. G. B. Lake, Wolcottville, Ind.: I am a member from a country district where this smallpox matter has been agitated. We have had several smallpox epidemics, and this question has been largely talked over among us. In towns where the quarantine has been enforced very strictly it has been a decided burden, because when a family, no matter in how good circumstances it may be, is quarantined for smallpox, and the breadwinner compelled to refrain from his necessary labor, the general understanding is that that family must be supported, not simply with the necessities of life, but also with any luxuries to which its members may feel themselves entitled. A person of mature years who refuses to be vaccinated absolutely deserves no sympathy, and I believe that the cutting off of the quarantine laws with regard to smallpox will be the quickest and surest way of educating the people in the necessity of vaccination.

Dr. J. N. Hurty, Indianapolis: I endorse every word Dr. Bracken has said. There is not the slightest need of having smallpox. It is an indictment of the intelligence of a community for it to have the disease. There is only one prophylaxis for smallpox. Quarantine does not amount to a hill of beans. If a single patient comes into a community where smallpox has not been prevailing, isolation of that patient will probably stop the spread of the disease. If the disease gets started, as it did in Indiana, quarantine amounts to nothing. I am only sorry that we have a statute, which the board of health can not change, which requires that smallpox be quarantined. That is a useless expense. Down in our mining regions they love to be quarantined. If told that vaccination will protect them, the people will reply that they would rather have the disease than be vaccinated. The reason is that they will have a chance to lie around at home with support furnished for a while. They will run the risk of death, for they see that smallpox causes very few deaths. They care little for the inconvenience. It is in vain to tell them that we, being vaccinated, are not afraid of it, can not be attacked by it, can live with it—eat it, if we want to, or do as Dr. Brayton did, who inoculated himself with it over and over again, and carried the sore on his arm three months by inoculation to demonstrate that he could not have it. All this has no effect. What is the use of quarantine to control epidemic smallpox? Let those that want it have it. I regret that the Indiana statute which compels us to quarantine smallpox is repealable only by legislative act. On the Monon road to Indianapolis, in Carroll County, are about two hundred cases along Wild Cat Creek, some very severe. We just let them alone. They will never have it again. The health officer of Sullivan County took his thoroughly vaccinated child with him when he went to see cases, to demonstrate to the people of Sullivan County how to go free from smallpox. Of course, neither father nor son contracted the disease because they were successfully vaccinated. Even such demonstrations do little good. I endorse Dr. Bracken's contentions.

Dr. Heman Spalding, Chicago: It is immoral to advise that every one be allowed to get smallpox who wants it. One might as well let a man commit suicide because he wants to do so. Quarantine, of course, is secondary. Vaccination is an absolute preventive: if everybody can be induced to believe that and act on it there will be no more smallpox. In Oskaloosa, Iowa, I made such a statement before the city council. A member of the council said: "Let's go right out and get them all vaccinated." I said he might start out and try it; it would take one thousand to vaccinate another thousand. It is necessary to quarantine and isolate. Right out of Dr. Bracken's and Dr. Hurty's back doors smallpox patients are coming to Chicago all the time. It cost us $100 to take care of patients that Dr. Bracken has failed to quarantine in Minnesota, and the same is true of Dr. Hurty's state. We have four cases of smallpox in Chicago now, one from Montana, another from Tennessee, all four from outside of the city. Nearly all our cases are imported. We have this city so well vaccinated that smallpox patients can enter a car or hotel or any place here, and out of 500 people they meet, only one or two will be infected. Vaccination stands first, quarantine second. Quarantine can not be dropped under the present condition of affairs. I do not approve the method of Minnesota. It has made me turn gray this winter. We have had more trouble with that state than any other. Dakota is doing the same thing, and we have three or four cases from there. I am absolutely opposed to Dr. Bracken's paper as it stands.

Dr. C. F. Williams, Columbia S. C.: I think that Dr. Bracken is on the right line. I do not think, however, that exposed individuals should be allowed to run at large unless vaccinated. I agree with him that the shotgun quarantine does harm instead of good, for when such a measure is instituted cases are going to be concealed which otherwise would be reported. When the bread-earner is shut up it becomes necessary to feed his family, and in a very widespread epidemic it is not long until the city or county treasury is so depleted that a howl goes up from this quarter, resulting, as a rule, in antagonism against those trying to control the disease. In South Carolina we have a compulsory vaccination law. As soon as one develops the disease, patient and attendant are isolated, and all the occupants of the house and those exposed vaccinated. The occupants are then allowed to go in and out just as though nothing had happened. The public is warned by a sign, bearing the words, "Contagious Disease Here," which is placed by the entrance to the house. When the case is dismissed by the attending physician the house is thoroughly disinfected. By this means we have been able to control the disease, and in very few instances has a second case occurred.

Dr. H. M. Bracken, Minneapolis: In answer to Dr. Webster's question, we allow the vaccinated to go to and from placarded houses. That is exactly in line with the teaching of Dr. Chapin's paper this morning, and with the position taken by Dr. White yesterday. Dr. Gorgas says that the sick man is the great transmitter of disease. It is not the healthy individual who spreads smallpox; it is the sick, and we want to impress this fact, not only on the laity but also on members of the medical profession. I admit that there is a possibility of transmission by a second to a third party, but that possibility is so slight that we can ignore it, and not do any great harm in the community. We certainly can do more good by advising people that they must protect themselves by vaccination than by giving them the idea that we are going to protect them by quarantine. Dr. Spaulding says that smallpox is coming into this city from Minnesota. If that is so the Chicago Department of Health is not doing its duty. Dr. Evans was in Minnesota a short time ago, and took the position that if Minnesota wanted to have smallpox it ought to have the privilege, but that it was a question if outsiders should not quarantine against the state. I wrote to Dr. Evans, at that time, urging him to advise me of every case of smallpox found in Chicago from Minnesota. At that time he advised me of one case. We sent an inspector at once to the place in Minnesota from which this patient went and found smallpox patients not properly looked after. These patients were at once placed under proper control. We have not had notice of a single case of smallpox in Chicago from Minnesota since that time.

Pasteur Institutes in India.—The Pasteur institute for the treatment of hydrophobia is now in full swing at Kasauli, a small hill station in the Punjaub, on the road to Simla. Large numbers of Europeans come here from near and far for treatment, and soldiers are sent by the government free of charge from all parts of the empire. In some instances natives will travel immense distances in order to place themselves under treatment, although in most cases they can not be prevailed on to recognize the facts of the situation. Hydrophobia is terribly prevalent in India among dogs and jackals, but there is no particular reason why it should not be as amenable to preventive measures in India as it has proved to be in the British Isles.—*Medical Press and Circular.*

Clinical Notes

THE TREATMENT OF PERNICIOUS ANEMIA WITH CHOLESTERIN.

CHARLES E. SIMON, M.D.
BALTIMORE.

In a recent communication Reicher[1] reports three cases of pernicious anemia and one of secondary anemia referable to nephritis in which cholesterin was used for therapeutic purposes, the idea in mind being to counteract any hemolysins that might be active, in a manner analogous to the action of cholesterin on cobralecithid. Similar considerations led me to the same attempt over a year ago. But as I have had only six cases of pernicious anemia at my disposal during that time, I hardly thought my data sufficient to warrant their publication. Reicher's paper, however, makes it desirable to place on record the little that has been done.

All six were typical cases of cryptogenetic pernicious anemia, one of them being of the so-called aplastic type. Three patients were in an advanced state of the disease when coming under observation and only lived for a few weeks; in these no effect whatever was observed from the use of the cholesterin. A fourth patient was discharged unimproved after a three weeks' course of the treatment and died a few days later. In the fifth only 24 gm. had been administered when the treatment was suspended, and death occurred shortly thereafter.

An apparently beneficial effect was obtained in the remaining case, but as the patient at the time when the cholesterin treatment was begun was virtually in her first attack one naturally hesitates to ascribe the noted improvement to any one therapeutic factor. It is noteworthy, however, that the resumption of the cholesterin some months later, when a relapse had occurred, was again followed by marked improvement. This patient is still living and in good condition. When first seen the red cells numbered 1,744,000, while the hemoglobin was 46 per cent.; there was then marked anisocytosis with a distinct tendency to macrocytosis; there was poikilocytosis and extensive granular degeneration (so-called). Normoblasts with pyknotic and karyolytic nuclei were fairly numerous; there were some free nuclei and a few mitotic cells; megaloblasts were scant. After a three weeks' course of cholesterin the red cells had increased to 4,000,000 and the hemoglobin to 80 per cent. Anisocytosis was still noticeable but less marked than before; granular degeneration was slight and there were no nucleated red cells. Subsequently the anemia became more marked again, but, as I said before, the patient again improved and at the present time is well.

In Reicher's three cases of pernicious anemia one patient remained unimproved, while in the other two the effect of the cholesterin was decidedly beneficial. One of these patients was admitted in a wretched condition, with intense dyspnea, ascites, pleural effusion, edema and a red count of 750,000 with 18 per cent. of hemoglobin. After a week the count had risen to 1,750,000 and the hemoglobin to 30 per cent., while the threatening symptoms had all disappeared. The improvement was thus quite remarkable, but after a few weeks no further gain was obtained and still later a relapse occurred which ended fatally.

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[1] Berl. klin. Wchnschr., 1908, Nos. 41 and 42.

As to the administration of cholesterin, Reicher made use of a 3 per cent. solution in olive oil, of which he administered 100 gms. a day—hence 3 gms. of the substance. In this manner he obtained a much better resorption than with aqueous suspensions. In future I shall follow the same plan; in the past I have made use of cholesterin in capsules. A serious drawback to the extended use of the material is its cost, viz., 50 cents a gram; this makes it doubly important to achieve as extensive a resorption as possible. Regarding its nontoxicity, Reicher's observations are quite in accord with my own; even with 4 and 5 gms. a day no deleterious results whatever were noted.

A theoretical discussion of the rationale of the use of cholesterin in anemias of the pernicious type does not seem necessary at present. The sole object of this communication is to place my results on record. So far as they go they seem to indicate that in advanced cases very little, if anything, is to be hoped for from the use of cholesterin, while in early cases improvement may follow.

1302 Madison Avenue.

THE INTRAVENOUS INJECTION OF MERCURY.

GEORGE P. CRUME, M.D.
MINNEAPOLIS.

The hypodermic method of administering *mercury* has gained a distinct and deserved place in the therapy of syphilis. Not only has the technic been gradually improved, but preparations less irritating and better suited to our needs have been produced.

For convenience of study this method readily admits of division into subcutaneous, intramuscular and intravenous injections. It is especially to the last that I desire to call attention.

The introduction of mercury (sublimate-solution) by means of intravenous injections was first recommended by Bacelli in 1892, though other drugs had been administered in this way several years earlier. Two reasons have prevented this method from gaining more than limited favor with the profession; first, the delicacy of the technic; second, the fact that it is regarded by some, many of whom have never used it, as dangerous.

My experience with this method began about fifteen months ago and since then I have given over 200 intravenous injections, a number somewhat limited but certainly entitling one to a preliminary opinion not only as to the technic but as to the potency of the drug when thus administered.

Any preparation free from insoluble particles may be used. Solutions of bichlorid, biniodid or cyanid in 1 per cent. strength are most frequently given, the dose being from 1 to 3 c.c. repeated daily or every other day. My experience has been almost entirely with the cyanid, a salt which contains 79 per cent. of mercury and is, I believe, less irritating than the sublimate.

TECHNIC.

The technic is simple, but demands care and exactness. Almost any of the superficial veins may be used; the median basilic and cephalic are generally recommended, but I find that those on the back of the hands are most often suitable. A bandage is tightly applied proximal to the site of injection to distend and render the vein prominent. I then apply to the site for injection chemically pure alcohol on a pledget of cotton without much friction. The needle and syringe, having been prepared, may now be loaded, the needle attached and introduced almost parallel to the vein till in the lumen and in the direction of blood current. Then the bandage should be removed and the injection slowly given. When the needle is withdrawn the blood usually flows rather freely from the small puncture. This should be wiped away and no dressing applied.

Fine platino-iridium needles (2 to 3 cm. in length) should be used, and the Luer all-glass syringe is best adapted to this purpose.

It is not always easy to be certain that the eye of the needle is in the vein, though it is advised to determine this by the lessened resistance and the freedom with which the point can be moved, indications which to me are not reliable when the vein is small or located in loose cellular tissue. Using the Luer syringe, I chanced to discover that whenever the needle is in the lumen of the vein the blood at once comes into the barrel of the syringe, provided the piston is not held. This has proved in my hands a valuable aid indicative of the presence of the needle in the lumen of the vein, but it is an indication which can not be obtained unless the piston fits the cylinder so accurately that the blood pressure is sufficient to press it backward. This guards against undue wounding of the delicate endothelium, which predisposes to an endophlebitis. After the needle is in position the strictest attention is needed to keep it there until the injection is consummated. To this end an assistant is necessary to remove the bandage.

We know that syphilis is caused by a special organism, but our knowledge of the action of mercury on that organism remains purely empirical. We agree that the remedy must be absorbed, must reach the circulation, before it exerts a general effect. Then if the drug is administered by the mouth, by inunctions or intramuscular injections, there is not only the delay, which may be several days, before the circulation is reached by an amount of the drug sufficient to produce the physiologic effect, but also the greater disturbance of the system, and the increased difficulty of maintaining the desired intensity of effect. It seems to me that these disadvantages are best met and overcome by intravenous injections: that this is our best means for meeting the needs of those urgent cases in which great destruction or irreparable damage is imminent, as for example, severe visceral disease, lesions of the eye or of the nervous system. For not only can the physiologic effect be produced, but the patient's tolerance can be discovered in two or three days and with perfect safety by this method. In certain specific conditions not infrequently met this is an advantage of first importance.

OBJECTIONS.

Nevertheless, this method is not without real as well as fancied objections.

1. The technic is somewhat delicate, it being easy to miss the vein or pass the needle entirely through it.

2. Injection outside of the vein causes a cellulitis with induration at site of injection, an acute phlebitis; injection into the wall of the vein or the valves or failure to remove the bandage before injecting causes an acute endophlebitis. None of these accidents is serious, neither do they occasion much pain or inconvenience.

3. Veins are not always sufficiently prominent for the operation, especially in women and obese subjects.

4. A. Fournier asserts that it is imprudent to bring the endocardium in direct and sudden contact with a toxic agent such as mercury. But he produces no evidence and admits never having given an intravenous injection.

5. It is said that the mercury is more rapidly eliminated than by any other method and that recurrences are more frequent.

6. It is further asserted that the therapeutic effects are not very encouraging, not being, in fact, superior to those of other methods.

This last objection is not what, after careful and impartial consideration of the method, would be expected to be true, and it is not believed that experience in well-selected cases will ever establish it. That recurrences happen after treatment by this method is not denied. They occur, and often to our embarrassment, after treatment by every method; that they occur earlier than when other methods are used has not been proved, and, if it were, there would still remain a valued place for intravenous injections in the therapy of those severe conditions above indicated.

ADVANTAGES.

As a routine practice very few advise this method; as a provisory means when it is necessary to act quickly, to surprise the enemy as it were, in cases of rapidly-invading syphilis, it should receive first consideration; also as a therapeutic test; and for this purpose mercury, not the iodids, should be used in the great majority of cases. Other advantages which this method enjoys are: Absence of pain, mathematical dosage, and instantaneous introduction into the circulation.

815 Andrus Building.

ILEOCOLITIS WITH INTOXICATION

PRESENTING SYMPTOMS OF MENINGITIS AND FOLLOWED BY MULTIPLE NEURITIS.

H. D. McCARTY, M.D.

BALTIMORE.

History.—January 5, F. L., aged 5, had been as well as usual. At his evening meal he partook freely of canned corn, and before going to bed ate three cherry tarts. He awoke at 2 a. m., with violent pains in the abdomen, followed by nausea and vomiting. The child had a very high temperature, and before daybreak appeared somewhat delirious. The bowels were constipated. He appeared more or less stuporous, but it was not until the following Tuesday, January 9, that symptoms resembling those of meningitis developed. The family was much alarmed by the drawing back of the child's head and the occurrence of internal squint. He became even more stuporous; the tongue was thickly coated and the breath offensive, the temperature running 103-104, pulse about 120. For twenty-six days after the onset the temperature varied from 101 to 104, and the pulse was continually high. The attending physician was asked to call in a consultant, which was done, and a diagnosis of meningitis was made.

Examination.—I saw the child on January 31, at which time he presented the following picture: He was a rather large boy, extremely emaciated, with pale mucous membranes, and lemon-colored, flabby, dry skin. The patient assumed the lateral position in bed, the head was drawn back with marked rigidity of the neck and contraction of the abdominal muscles. The lower extremities were flexed on hip and knee, and all the flexors contracted and rigid. Kernig's sign was marked. The hands were clenched, arms flexed at elbow and usually held across the chest, the patient from time to time putting his hands to his mouth. The palpebral apertures were wide and equal. The pupils were dilated, equal and reacted to light sluggishly and contracted slightly to accommodation. The right eye was slightly turned in. No knee-jerk was obtained, but the contracted condition of the lower extremities made the test uncertain. Stimulation of the plantar surfaces gave plantar response. (Babinski was absent.) There was hyperesthesia of the lower extremities. Any manipulation of them evidently caused great pain. Dermographia was marked. The boy was conscious but stupid; he recognized those about him and was able to call for what he wanted. He was cognizant of pain and discomfort and called constantly for food. The presence of the father seemed to irritate the child. The child passed urine freely. The bowels were obstinately constipated. The pulse was 110 to 120, and irregular. Respirations varied in number and depth. No definite periodicity was noted. The picture was one of meningitis.

Treatment.—Being impressed after several days by the condition which had changed but little since the onset, except for the failing forces, and by the character of the stools, which were foul-smelling, dark brown in color, containing large amounts of thick jelly-like mucous, occasionally streaked with blood, decomposing clots of milk and small undigested particles of shredded wheat biscuit. I was compelled to think that the condition was possibly due to the toxins absorbed from the intestinal tract. Treatment was instituted accordingly. A large dose of castor oil was given and the bowels washed on alternate days with nitrate of silver, 1/4 gr. to the ounce, and salt solution, a long soft catheter being used. For the first week nothing but whey, albumin water, and predigested milk and brandy were given at regular intervals. One dram of bismuth in emulsion was given every twenty-four hours.

Clinical Course.—From the first the improvement was rapid and marked and the boy gained in strength and took on flesh at an astonishing rate. As the symptoms of irritation cleared up it became evident that there was a definite symmetrical paralysis of the legs. The muscles of the legs had become wasted, and there was definite weakness of the flexors of the ankle. The knee-jerk was not obtained until six weeks after improvement was first noted. The patient did not walk until about three months after improvement began. The gait was feeble, unsteady, the legs being lifted high, and the feet slapped on the ground. Examination showed the double foot drop so commonly seen in multiple neuritis. There was never any marked weakness in the arms.

It would seem from the rapid improvement following on treatment directed toward the intestinal tract that one may fairly assume that the meningeal symptoms were due surely in large part to the action of toxins and not to a definite inflammation. The involvement of the legs can be explained by the action of the poison circulating in the blood. In consideration of the admitted difficulty of the diagnosis between meningitis and the results of intestinal toxemia, this case affords great encouragement for thorough research for the primary seat of the infection, even in cases in which the outlook seems anything but favorable.

613 Park Avenue.

Regional Anesthesia by Spinal Technic.—Avramescu believes that the anesthetic injected into the spinal cavity acts on the roots, not on the spinal cord, and that consequently only those roots should be acted on which innervate the field of operation. In his communication on the subject, published in *Spitalul*, and summarized in the *Münch. med. Wchnschr.*, 1908, 2457, he states that the anesthetic should be injected between the fourth and fifth lumbar vertebræ when the operation is to be on the external genitals, perineum or anus, and between the first and second lumbar vertebræ for the inguinal region and legs. The ninth or tenth thoracic vertebræ correspond to the abdomen below the umbilicus, the sixth and seventh to the region above the umbilicus, and the first and third to the thorax. No injection should ever be made above this, on account of the danger of paralyzing the phrenic nerve.

A CASE OF ERYTHROMELALGIA.

J. P. KANOKY, M.D., and R. L. SUTTON, M.D.
KANSAS CITY, MO.

Typical examples of erythromelalgia, the "red neuralgia" first described by Dr. S. Weir Mitchell in 1872, are encountered with sufficient infrequency to merit more than passing notice.

Patient.—A. B., physician, aged 54, applied to us for treatment on July 1, 1908.

History.—He is a native of Prussia, having removed to America in 1887. He has had one attack of gonorrhea, over thirty years ago, but has never had syphilis. There is no history of any serious illness, although he has been a frequent sufferer from slight attacks of rheumatism and has for many years been subject to neurasthenia. His circulation has always been good. He has never sustained an injury of any kind and has never indulged in violent exercise or experienced prolonged physical fatigue. Formerly he was a moderate drinker of beer, but for the past ten years he has been an abstainer. He averages one cigar a day. In June, 1908, his wife, who has always been an invalid, had a stroke of apoplexy, with resulting partial paralysis. For a considerable period the husband was with her constantly, day and night, and this nervous strain, together with the loss of sleep and his susceptibility to neurasthenia, came near resulting in a mental breakdown.

Present Illness.—It was at this time he first noticed an irregular, rosy to dark red mottling of both palms, including the palmar surfaces of the thumbs and fingers, with some swelling and slight elevation of temperature. This was especially marked if the arms were allowed to hang at the sides. When the hands were held over the head the redness slowly disappeared, although the puffy condition of the tissues persisted for several hours. About one week after this he experienced a severe attack of neuralgia. The pain, which was burning and stinging in character, "as if a puff-ball made of red-hot needles had been forcibly grasped," affected both palms, came on suddenly, and lasted for about thirty minutes. Since that time he has had an attack almost daily, the paroxysm lasting from a few minutes to an hour. The only local application that gave any relief was cool water, and its effect was only transitory. Hot or cold water increased the pain.

Examination.—Both palms were found to be slightly swollen (the patient had had an attack fourteen hours previously) and a trifle paler than normal. There was no pain, although the parts were extremely sensitive to the touch. There was no pitting on pressure. Compass points separated by a distance of 1 cm. could be readily distinguished in the centers of both palms. Sensibility to both heat and cold was increased. There was no atrophy or loss of motion in either limb, and no tenderness over the nerve trunks. The reaction of degeneration was not present. The skin was normal, so far as could be ascertained with a high-power hand-glass. The patient was in constant fear, however, of becoming infected through some skin abrasion and frequently thought he had found cracks in the epidermis where, in reality, the integument was smooth and unbroken. Both pupils were normal and reacted readily to light. Urine examination was negative. The knee-jerks on both sides were exaggerated and the ankle-jerks a trifle excessive. The blood pressure was 128 mm. (Riva-Rocci, 14 cm. armlet, recumbent posture). The radial arteries were softer than is usual in a man of 54. When seen on the following day the patient was in the midst of an attack and appeared to be suffering intense pain. The palms were deep red in color and, especially those portions overlying the metacarpo-phalangeal articulations, greatly swollen. The parts were much more sensitive than at the first examination, the slightest pressure giving rise to increased suffering. Manipulation of the limbs or pressure over the nerve trunks did not increase the pain.

Course of Disease.—Since then we have seen him many times while in the course of an attack, the symptoms being practically the same in every instance. Worry, either as a result of his wife's condition or as to his own future, and excessively hot weather both have a tendency to increase the frequency as well as the severity of the paroxysms. On August 24 he endeavored to turn a tight water faucet with his right hand. Considerable force was used, the greater part of the pressure being borne by the ball of the right thumb. A few hours afterward the thumb became red, swollen and extremely painful. The edema persisted for forty-eight hours, then gradually subsided. Three days later a superficial exfoliation of the overlying skin began and, during the following week, the entire palmar surface of the thumb shelled off, being replaced by apparently healthy epidermis. On September 15 it was noticed that the outer layers of this new skin had become cracked and broken and, although signs of inflammation were absent, a second exfoliation occurred. On October 10 several small papules could be seen beneath the epidermis of the right palm. Five or six reached the surface, vesiculated and scaled off, having given rise to practically no subjective symptoms. The patient has now been free from severe neuralgic attacks for over two months, although there is considerable congestion and some pain manifested when the arms are allowed to hang naturally at the sides for an hour or more. His general health is much improved, because, in large measure, of the return of cooler weather.

Treatment.—Of the numerous therapeutic agents tried in this case only three have proved of perceptible value: lecithin, as a tonic; aspirin, given for its antirheumatic effect and empirically to alleviate the condition; and the *x*-rays, employed because of their action on the peripheral nerve endings. The exposures, which were brief (from three to five minutes, on alternate days, a soft tube, at 15 cm. distance, being used), appeared to give more relief than any other measure applied.

276 Ridge Building.

POSTCLIMACTERIC UTERINE HEMORRHAGE, DUE TO RELATIVE HYPOTHYROIDISM.

C. C. WALLIN, M.D.
LEWISTOWN, MONT.

Physiologic antagonism between the secretions of the ovaries and thyroid has, for some time, been in a general way recognized. Bandler very definitely attributes many of the nervous symptoms arising in adolescence and in the climacterium to "relative hyperthyroidism," by which is signified a failure of the ovaries to produce sufficient of their internal secretion to neutralize the entire product of the thyroid. Thus a condition similar to Basedow's disease is brought about, which condition is relieved by the administration of ovarin.

That the normal balance between the secretions of the thyroid and ovaries may be disturbed by a deficient thyroid secretion, thus bringing about a relative hyperthyroidism, which may be the cause of uterine hemorrhage, I have not seen stated in any of the literature at my command. The following case demonstrates that such a condition may arise:

Patient.—Mrs. D., aged 55. Early history uneventful. Menses were established normally at 14 years, and were regular and painless until the age of 38. The patient had four children, all the labors being normal and without instrumental aid.

Present Illness.—When the patient was 38 menstruation ceased for several months, since which time it had been irregular in periodicity and quantity, the flow occurring at intervals of from two to seven months, and being accompanied by a sense of constriction in the throat and some visible enlargement of the thyroid, together with general nervousness. When first seen by me in April, 1908, the patient had been "feeling bad" for several days, and for the two days previous had been flowing more than usual, yet was not sick enough to go to bed. This meeting was rather casual and she was advised to keep off her feet and rest for a day or two. After two days the flow was unabated, the general nervous condition worse, and the thyroid gland decidedly enlarged.

Treatment.—Thyroid extract was administered in doses of two grains three times daily, and at the end of the twenty-four hours following the flow had ceased and the swelling of the thyroid was perceptibly diminished. After twelve doses the size of the gland was normal. Since this experience the patient keeps a supply of thyroid on hand, and when she feels an exacerbation of nervous symptoms, with constriction of the throat and pelvic congestion, takes a few doses and is relieved.

The results obtained are satisfactorily explained only by recognizing the antagonistic influence of the secretions of the glands mentioned. It has long been known that certain enlargements of the thyroid are due to a deficiency in its proper secretion. The rôle of the ovarian secretion in causing congestion of the pelvic organs, thus aiding in bringing about the menstrual flow, is a somewhat later conception. In the foregoing case thyroid insufficiency is evidenced by the enlargement of the gland. The uterine hemorrhage is attributable to the action of that portion of the proper ovarian secretion which was not neutralized, owing to the deficient thyroid product. By treatment which supplied the lacking thyroid substance the normal balance was restored, the relative excess of the ovarian secretion was neutralized, and the pelvic congestion and consequent hemorrhage checked. On the thyroid the usual action of reduction in size was obtained as in the type of goiter alluded to.

Therapeutics

ASTHMA.

In the first place, the disease asthma should be dissociated from conditions which are termed asthmatic. A patient may be asthmatic from various causes, but the term asthma should be limited to the disease or condition itself, i. e., periodic attacks of bronchial spasm. More or less continued dyspnea, with or without whistling râles, and with or without acute attacks of asthma, may be caused by cardiac disease, cardiac asthma; by renal insufficiency, renal asthma; by plethora, causing attacks of acute hyperemia of the lungs; by arteriosclerosis; emphysema; diabetes; thyroid disturbances, and by the various anemias. Spasmodic asthma may be caused by bad heart attacks; by acute toxemia from renal insufficiency; by exacerbations of gout, probably due to a toxemia from nitrogenous mal-metabolism; by acute indigestion, and by gastrointestinal irritants causing a swelling of the mucous membranes of the bronchial tubes, really an urticaria. This swelling of the mucous membrane of the bronchial tubes has been caused by diphtheria antitoxin.

The diseased condition, or neurosis, termed true asthma, is often due to irritation of the nose and throat, and sometimes of the ear; is frequently due to chronic bronchitis, often is concomitant with acute disturbances of the mucous membranes of the upper air passages, as when caused by irritations from pollen, such as hay fever, rose fever, and by various dust and drug irritants. Asthma, however, is frequently a neurosis alone, not being caused by any one particular condition or irritation. This is pure "cussed" asthma and has been termed the "epilepsy of the lungs." Probably these unexplained attacks of asthma are caused by some irritant in the blood similar to the exciting cause of an epileptic attack. Such irritations being removed or prevented, the frequency of the attacks will be diminished. However, like epilepsy and like migraine, a habit of asthma having been formed, even after the early exciting cause has been removed, the nervous centers having become accustomed to the periodic discharge of excessive energy, will often continue this vicious habit. Consequently, like a beginning *petit mal*, and like a beginning eyestrain headache, little mild recurrent attacks of asthma should be inhibited, if possible, at the beginning, lest the patient be condemned to suffer for years, or a lifetime, from recurrences of this terrible condition of real asthma.

An attack of asthma generally occurs at night, and may be preceded by headache, some symptom of indigestion, mental depression or nervous irritability. There is at first some slight dyspnea and a short dry cough. The dyspnea and consequent cardiac distress increase, and the agony suffered by these patients can not be understood unless one has seen them suffering from an attack of this terrible disease. The agony is almost as great as that of acute cardiac dyspnea, although there is not so much mental anxiety. The patient may be pale or almost livid, and the expression of the face shows the suffering due to attempts to inspire, and then to expire, through the contracted bronchial tubes. The muscles of inspiration being stronger than the muscles of expiration, for a time more air enters the lungs than can get out, and little by little there is increased chest distention. Percussion shows hyper-resonance. The greatest amount of wheezing, as shown by the stethoscope, is in expiration, and the expiration is prolonged in the attempt to empty the lungs and prepare them for the next inspiration. If the bronchial secretion begins, as it generally does, moist râles may also be heard, and, after a series of spasmodic efforts, the cough brings up white glairy mucus.

The pathology of the condition is a spasm of the bronchial tubes. To what distance and to how small bronchi this spasm extends can not be well decided. No one should contend that the mucous membrane of the bronchial tubes may not suddenly swell and this swelling alone, obstructing the passage of air into the deeper portions of the lungs, cause an asthma. Such is doubtless the condition in certain poisonings by drugs that cause urticaria and in the rare instances of antitoxin poisoning. Also it is not only probable but a fact that sooner or later in an attack of asthma the mucous membranes become more or less congested from the upset condition of the usual differences in the pressure within the lungs or without the lungs, which is so readily understood if one recognizes that the right side of the heart has lost its aid from the usual negative pressure in the lungs. This congestion of mucous membranes, of course, soon means exudate, and exudate means more or less mucous and watery secretion. But this is only an incident in ordinary asthma, the spasmodic contraction of the bronchi is the cause. This is not true of the asthmatic conditions caused by circulatory disturbances. Such asthma may be caused more by sudden hyperemia of the mucous membrane of the lungs than by the spasmodic contractions, but true asthma is as above described.

During the attack little rice-like particles, which are white and gelatinous, are often coughed up and have been called *"perles"* of Laennec. These little pellets may sometimes be unfolded, as first described by von Curschmann, into little spiral strings of mucin, some of which may be wrapped around a globule of mucin. These *perles* probably originate in the smaller bronchial tubes. Sometimes, also, sharp octahedral crystals are found in the expectorated matter. These are known as Leyden's or Charcot's crystals. Whether or not in certain patients these crystals, or these pellets, of mucin are the cause of the attack of asthma has not yet been determined, but some patients are more or less asthmatic as long as these little affairs or objects are found in the sputum. When they are no longer present the cough ceases, the little bronchitis which the patient has had ceases, and the asthma may be absent for a shorter or longer period of time; then a recurrence of the condition generally takes place. If the blood is examined during the attack or shortly after, frequently a greatly increased number of eosinophiles are found. This would seem to denote gastrointestinal irritation.

The length of these attacks of acute asthma, if unrelieved, varies from an hour or two to all night, and sometimes an attack may last several days. Occasionally the attacks last for many hours, or even days, in spite of all treatment, and any temporary relief given by powerful drugs may not prevent the resumption of the asthmatic spasm the moment the patient is out of the influence of the drug. The amount of dyspnea that the patient has, and the amount of suffering and the seriousness of the attack, do not bear a close relation to the amount of wheezing that is heard. A patient may not suffer greatly from dyspnea so long as he is sitting upright, and yet be wheezing like a decrepit old horse.

The longer the paroxysm lasts and the more intense it is the greater the danger of permanent injury to the heart and the greater the danger of the distention of the chest, so injuring the lung tissue as to make the emphysema permanent. Even after repeated attacks most patients have no cardiac injury and no lung injury, but this is doubtless because most of those who suffer from acute asthma are young; the older patients do have more or less lasting bronchitis, heart debility and more or less constant dyspnea and often emphysema. It is rare for a patient to die during an attack of acute asthma, but the condition should always be considered serious, as it could never be decided how much future disability was caused by the prolongation or repetition of such serious disturbance of the vital functions of respiration and circulation.

Acute attacks of asthma may occur every night for a series of nights, and then not for a long period, or after one attack there may be no more for some time, or they may occur more or less periodically, or they may recur only at certain periods of the year or in certain places. These last are likely to be due to nasal irritations. The attacks may also occur more or less frequently for several years, or even for a lifetime.

The treatment of this troublesome disease, or condition, will never be a success unless the cause has been determined, and, if possible, removed. Hardly any patient with any disease should receive a more careful general examination than the asthma patient. The lungs must be carefully examined for bronchitis and emphysema, and more serious conditions found or eliminated, and the blood pressure taken. The digestive ability of the stomach and intestines should be investigated, the urine should be examined, and all possible reflex causes sought in the throat, nose or ears. If all tangible causes of the asthmatic attacks have been eliminated, a careful analysis of the excretion of the various salts and solids in the twenty-four hours' urine, on a known diet, should be made. Even careful examinations of the feces, on a known diet, may give conclusive evidence of the cause of the toxemias that give rise to asthma. So much for negative evidence.

Positively, asthma is caused by polyps in the nostrils, hypersensitive mucous membrane in the nostrils, hypertrophy of the Schneiderian mucous membrane, adenoid conditions of the nasopharynx, lingual tonsil irritations, and tonsil irritations and concretions, by growths or irritations in the larynx, chronic bronchitis, emphysema, insufficiency of the right side of the heart due to various cardiac lesions, arteriosclerosis, hyperacidity of the stomach, intestinal sluggishness and the absorption of toxins therefrom, insufficient urine excretion, amenorrhea, hypothyroidism, i. e., insufficiency of the thyroid, gout, diabetes, and uremia. Asthma also occurs when no amount of investigation can discover a cause other than the intangible condition of a neurosis.

Certainly, the cause being ascertained, the prevention of the action of that cause, if possible, is the height of the scientific treatment of asthma, and it is obviously unwise and unscientific to give all kinds of recommended drugs for the prevention of asthma when the etiologic factor has not been determined, and, finally, by a long process of trying one drug after another, find something that will, perhaps, benefit the patient. Such treatment is just as obsolete as is the administration of large doses of quinin in continued fever, and if the quinin does not prevent the progress of the disease, decide that the fever is typhoid.

Perhaps the most frequently successful drug in preventing the recurrence of asthma is an iodid, and this is probably because most asthma is due to affections of the air passages, and this drug is specifically a stimulant to the mucous membrane of the nose, throat and bronchial tubes. If any chronic disturbance is located in these mucous membranes the iodid tends, first, to increase the exudate from these membranes, then to make the mucus more liquid, and, while at first apparently irritant, soon relieves congestion of these membranes, and often, sooner or later, cures a chronic congestion and causes the membrane to become healthy. Hence the frequency of success from iodid simply emphasizes the necessity of a careful examination for, and the removal, if found, of any nasal obstructions or irritations. After such removal, a sensible treatment to prevent the recurrence of attacks would be the prolonged administration of iodids, and very large doses are seldom needed, or if the history of the attack shows long standing of the disease, the treatment of the neurosis by bromids is advisable, and here again the dose should not be large. We should not produce debility either with iodid or with bromids.

The patient under the administration of either drug should be carefully watched, and if no weight is lost and the digestion is good, we may continue such treatment for some time, gradually reducing the drug as the attacks of asthma are inhibited. For the prolonged use of either iodids or bromids the sodium salts are the best, as sodium does not cause muscle debility and is not poisonous to living tissues, as is potassium. In asthma due to chronic bronchitis, and in asthma with but little bronchitis, but with the repeated expectoration of the round gelatinous particles, the prolonged use of iodids seems to have the best curative effect.

Arsenic, a so-called alterative drug, seems at times to have a specific action on the organs of respiration. In chronic bronchitis, in asthma, and in catarrhal conditions of the air passages, arsenic, when given for a long period, is sometimes of considerable benefit. The respiratory ability and freedom from colds and coughs of the arsenic eaters of France and the Alps is well known.

A local cause in the upper air passages having been removed, if there was any such, besides treatment either by iodids or bromids, if either one is deemed advisable, anything that will improve the general health of the individual should be utilized. An occupation in which there is an atmosphere of dust or other irritant should be changed for one more suitable. Perhaps indoor work should be changed for outdoor work, perhaps the climate or location should be changed. Any indigestion, gastric or intestinal, should be corrected; constipation should be prevented; anemia should be treated, and insufficiency of the thyroid, if present, should be noted and modified.

If asthma recurs at certain periods of the year as does hay fever, the preventive treatment is the same as for hay fever. Anything that will reduce the nasal irritations and congestions will relieve the asthma, and any change in location that will prevent the hay fever will generally prevent the asthma. To just what locality or climate an asthmatic patient should be sent is difficult to determine. Also, it is impossible to predict that, because one patient is benefited by a sojourn or residence at one particular place, that place will be beneficial to the next patient. Theoretically, regions free from dust and vegetation should be the regions to prevent attacks of asthma. Sea voyages are sometimes beneficial and sometimes not. The decision as to whether or not benefit will be derived from certain regions may often be determined by a careful investigation into the condition of the patient's mucous membranes and the condition of his circulation.

Anything that would tend to make the circulation better in the mucous membranes of the upper air passages and diminish congestion and tumefaction of the mucous membranes of all the air passages will tend to prevent recurrences of asthma. Cardiac insufficiency, of course, should be properly treated, and whether the heart needs digitalis or the arteries need nitroglycerin or nitrites continuously, or whether the general good effect of ergot on the circulation is needed (and asthma may sometimes be prevented by ergot) must be determined by a careful study of the individual patient.

Insufficiency of the kidneys as a cause of asthma should be treated by the proper diet and the prevention, if possible, of nitrogenous toxemias. Such asthma is an indication of nitrogenous poisoning. The asthma due to gout is often best combated with thyroid, and when there is insufficiency of the thyroid in young individuals, which may be recognized by well-known signs, such as amenorrhea or scanty menstruation in women, an unusual and undesirable increase of fat, a dry condition of the skin, and a tendency to nitrogenous poisonings, the asthma will be benefited by small doses of thyroid, perhaps, coincidentally administered with small doses of iodid, as iodid has been shown to be the most active stimulant of the thyroid gland.

(To be Continued.)

New and Nonofficial Remedies

THE FOLLOWING ARTICLES HAVE BEEN TENTATIVELY ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR INCLUSION IN THE PROPOSED ANNUAL, "NEW AND NONOFFICIAL REMEDIES." THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT, BUT TO SOME EXTENT ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE FINAL ACCEPTANCE AND PUBLICATION IN BOOK FORM.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(A list of all accepted articles is published on an advertising page of THE JOURNAL *in the first issue of each month.*

(Continued from Vol. LI, page 1513.

BILE SALTS.[1]

The bile of man and of several animals contains in varying proportions the sodium salts of conjugated cholic acids; in ox and human bile especially glycocholate acid $C_{26}H_{43}O_6N$: and taurocholic acid, $C_{26}H_{45}O_7NS$. Fresh ox gall is said to contain about 3 per cent. each of sodium glycocholate and sodium taurocholate.

The sodium glycocholate and taurocholate may be separated in the following manner: Dry ox bile is treated with absolute alcohol and the tincture precipitated by ether in excess. Both salts are deposited and the glycocholate crystalizes upon standing, the taurocholate remaining in amphorous form, resembling oily or resinous matter. If the deposit is dissolved in water, solution of lead acetate will throw down a lead glycocholate, while the addition of lead subacetate to the remainder will precipitate the taurocholate (U. S. Dispensatory, p. 490).

Tests: All the bile acids respond to Pettenkofer's test. A small portion of the salt is dissolved in a little concentrated sulphuric acid in a small porcelain dish and warmed, care being taken that the temperaure does not rise higher than 60° to 70° C. A 10 per cent. solution of cane sugar is then added drop by drop while the liquid is stirred with a glass rod. If compounds of cholic acid are present a beautiful red color will appear, which does not disappear at room temperature, but usually in the course of a day becomes bluish violet. The red liquid shows in the spectrum two absorption bands, one at F and the other between D and E near to E. Care must be taken not to heat too much nor to add too much sugar. The sulphuric acid must be free from sulphurous acid and the lower oxides of nitrogen. As albumin, oleic acid, amyl alcohol, morphine, etc., may give a similar reaction, spectroscopic examination should not be omitted in doubtful cases (Hammarsten, Lehrbuch der physiolog. Chemie, p. 312).

Furfurol Test (Mylius): The substance is dissolved in alcohol and for every one cubic centimeter of the alcoholic solution, one drop of a 1:1000 furfurol solution and one Cc. of concentrated sulphuric acid are added and the mixture cooled, if necessary, so that the temperature may not rise too high. The same color reaction occurs as in Pettenkofer's test.

Actions and Uses.—The bile salts constitute the main active principles of bile, and therefore share the actions and uses of the latter, perhaps with the advantage of more constant composition. When injected into the circulation they cause severe nervous and cardiac depression, not observed when they are given by mouth. They are generally credited with a slight antiseptic and laxative action, with enhancing the efficiency of the resinous hydrogogue cathartics, and with emulsifying and hence favoring the absorption of fat. They stimulate the secretory activity of the liver, increasing both the fluids and solids of the bile; indeed, they are the most powerful, if not the only, cholagogues known.

They may be used in obstructive jaundice, although the rationale is somewhat doubtful; their use in biliary fistula is more reasonable, if the nutrition is noticeably affected.

BISMUTH AND IRON CITRATE (SOLUBLE) Wellcome Brand—Bismuthi et Ferri Citras, Wellcome.—A "scale salt" containing bismuth citrate and ferric citrate in amounts corresponding to from 38 to 40 per cent. each of the respective anhydrous salts (corresponding to 20 to 21 per cent. bismuth and 8.7 to 9.1 per cent. iron) the combination being rendered soluble in water by means of ammonia.

Bismuth and iron citrate (soluble) occurs in yellowish-green scales, readily soluble in water, having a saline, mildly ferruginous taste.

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[1] Under the general heading the several bile derivatives accepted for N. N. R. will be described.

A solution of bismuth and iron citrate (soluble) is acid toward litmus; addition of dilute acids or of ammonia water renders the solution darker but does not cause precipitation; addition of sodium hydroxide T S causes formation of a reddish brown precipitate and evolution of ammonia

The iron content of bismuth and iron citrate soluble may be determined by the methods prescribed for ferri et ammonii citras U S P The amount of bismuth is determined by precipitating by hydrogen sulphide from an acid solution dissolving the bismuth sulphide obtained in dilute nitric acid, precipitating the bismuth from this solution by ammonium carbonate and weighing as bismuth oxide

Actions and Uses—It has the properties of iron and soluble bismuth salts Its administration is recommended when dyspepsia accompanies anemia when the sedative action of bismuth is exerted on the digestive organs, while the iron produces its effects.

Dosage—0.3 to 0.65 Gm. (5 to 10 grains).

Manufactured by Burroughs Wellcome & Co, London and New York Not patented or trade marked

ERGOTININE CITRATE—Ergotininæ Citras —The citrate of ergotinine, a crystalline alkaloid, probably $C_{35}H_{39}O_5N_5$, (Barger and Carr) derived from ergot

Ergotinine is obtained by extracting the residue left on evaporation of an alcoholic tincture of ergot with light petroleum to remove oily matter, dissolving the residue in ethyl acetate and shaking with citric acid solution Sodium bromide or hydrobromic acid is then added and the precipitated hydrobromides of the alkaloids, ergotinine and ergotoxin are collected The mixed hydrobromides are dissolved in caustic soda and shaken with ether, in this way ergotinine is removed first Finally, the ergotinine is crystallized from alcohol leaving ergotoxine and impurities in the mother liquor By interaction of ergotinine with citric acid, ergotinine citrate is obtained

Ergotinine citrate is a grayish-white amorphous powder, slowly soluble in water, it has an acid reaction to litmus paper

Ergotinine crystallizes in long needles the sides of which are not quite parallel, which darken and melt at temperatures from 219° to 229° C One part of ergotinine dissolves at 18° in 292 parts of alcohol, 1020 parts of absolute ether, in 91 parts of ethyl acetate, and is moderately soluble in acetone and benzene, and readily soluble in chloroform It is insoluble in light petroleum and in water Its specific rotation in alcoholic solution saturated in the cold is + 338° It forms salts which produce colloidal solutions in water which are precipitated by electrolytes so that they are little soluble in the presence of the stronger mineral acids

Tests. Ergotinine citrate when carefully decomposed by alkali the mixture extracted with ether and the ether evaporated yields a residue which responds to the test for ergotinine Solutions of ergotinine have a bluish violet fluorescence especially when acidified Concentrated sulphuric acid colors the alkaloid at first yellow, after some hours violet and at length blue If a small quantity of ergotinine is dissolved in concentrated sulphuric acid and a trace of ferric chloride added the mixture takes on an orange red coloration, which soon passes into red while the edges of the liquid are colored blue or bluish green

If a few milligrams of ergotinine are dissolved in about 4 Cc of glacial acetic acid a trace of ferric chloride added and the mixture underlaid with concentrated sulphuric acid a beautiful violet color appears at the junction of the two liquids

Actions and Uses—According to the investigations of Barger and Dale ergotinine has very slight physiologic activity when it enters the system unchanged, but it is liable to be converted to a certain extent into ergotoxine, which possesses marked physiologic activity and appears to represent the pharmacologic actions of ergot The action of ergotinine when given per os or when injected hypodermically, is variable in intensity but represents the action of ergot

Ergotinine citrate can be used as a substitute for ergot, and is said to act efficiently, when injected hypodermically, in the treatment of headaches and of uterine hemorrhage. Combined with strychnine it is said to be useful as a stimulant in uterine hemorrhage

Dosage.—.00033 to .00066 Gm (1/200 to 1/100 grain), hypodermically

Proprietary Preparations:

TABLOID ERGOTININE CITRATE—Tabloida Ergotininæ Citratis—Each tablet contains ergotinine citrate 0.00033 Gm (1/200 grain)

Dosage.—One or two hypodermically

Prepared by Burroughs Wellcome Co London and New York U. S Trademark on Tabloid Nos 11,993, 43,563, 43,559, 43,569; 44,219

TABLOID ERGOTININE CITRATE AND STRYCHNINE SULPHATE—Tabloida Ergotininæ Citratis et Strychninæ Sulphatis—Each tablet contains ergotinine citrate 0.00065 Gm (1/100 grain) and strychnine sulphate 0.0033 Gm. (1/20 grain).

Dosage—One or two hypodermically.

Prepared by Burroughs Wellcome Co, London and New York U. S trademark, as for Tabloid Ergotinine Citrate.

FLUORESCEIN—Fluoresceinum.—Resorcinolphthalein (a term not strictly correct but commonly used), dioxyfluoran—Fluorescein, $O{:}(C_6H_3OH)_2{:}\overline{C\,C_6H_4.COO} = C_{20}H_{12}O_5$, is the anhydride of fluoresceinic acid $O{:}(C_6H_3OH)_2{:}C(OH).C_6H_4(COOH) = C_{20}H_{14}O_6$

Fluorescein is prepared by the fusion of phthalic anhydride and resorcinol at 195-200° C (383-392° F) till the mass becomes solid This is extracted with water and the residue dissolved in potassium hydroxide solution which is then filtered and the fluorescein precipitated with acid

Fluorescein is an orange red powder, insoluble in water, ether, chloroform and benzol soluble in hot glacial acetic acid and boiling alcohol It dissolves in alkaline solutions with formation of a salt

The alkaline solution by transmitted light is red, by reflected light it has a green fluorescence even in very dilute solutions When fluorescein is boiled, with chalk and water, the calcium salt of fluorescein is formed which is recognized by its red brown color and green sheen

Actions and Uses.—The soluble sodium salt of fluorescein (fluorescein 2 Gm, sodium bicarbonate 3 Gm, water to make 100 Cc) has been used for the diagnosis of corneal lesions and detection of minute foreign bodies imbedded in the cornea. While a weak solution of fluorescein will not stain the normal cornea, *ulcers or parts deprived of epithelium will become* green and remain so for a time; foreign bodies will appear surrounded by a green ring; loss of substance in the conjunctiva is indicated by a yellow hue Fluorescein also reveals defects of the endothelium of the cornea and produces a deep coloration of the cornea if the endothelium is absent or diseased

Non Proprietary Preparation·

TABLOID (OPHTHALMIC) FLUORESCEIN B.-W. & CO.

Each tablet contains 0.00026 Gm (1/250 grain) fluorescein in combination with sodium, and weighs 0.0032 Gm. (1/20 grain) Prepared by Burroughs Wellcome & Co, London and New York.

QUASSIN—Quassinum.—A bitter principle found in quassia.

The alcoholic extract of Jamaica quassia wood (Quassia U S P) is neutralized with magnesia then acidified with tartaric acid and the alcohol distilled off The residue is shaken up with chloroform and the solution evaporated to syrupy consistency and dissolved in a mixture of equal parts of absolute alcohol and ether This solution is evaporated and the residue dissolved in as little absolute alcohol as possible, the solution covered with a layer of ether and allowed to evaporate The crystals which form are recrystallized from alcohol The product thus prepared consists of two bitter principles α picrasmin ($C_{35}H_{46}O_{10}$) melting at 204° C (399.2° F.) and β—picrasmin ($C_{35}H_{46}O_{10}$) melting at 209-212° C (408.2—413.6° F)

Quassin crystallizes in oblique rhomboidal needles with a pearly lustre It is odorless but has a bitter taste Its melting point is 210° C (410° F) and cooling it forms an amorphous mass It is soluble in about 400 parts of water at 15° C (59° F); in 30 parts alcohol (85 per cent) and in 21 parts of cold chloroform. It is very soluble in boiling alcohol in acetic acid, and very slightly soluble in ethyl and petroleum ethers It is soluble in concentrated acids and alkalies but not in alkaline carbonates Continued action of alkalies forms resins (Pharm Francaise, 1908) It is dextrorotatory in its chloroform solution 4.22 gm. in 100 Cc chloroform rotating the plane of polarized light to the right with a specific rotation of plus 38° 8′ Solutions of quassin are neutral

It dissolves to a colorless solution in concentrated sulphuric acid, which becomes red on the addition of sugar. (Pharm Francaise, 1908)

Actions, Uses and Dosage—Bitter stomachic, 0.002 to 0.02 Gm (1/30 to 1/3 grain) before meals

Quassin (amorphous) is not identical with the above and should not be confounded with it.

POTASSIUM MERCURIC-IODIDE—Potassii Hydrargyroiodidum.—A complex salt formed by interaction of mercuric iodide with potassium iodide

When mercuric iodide is added to an excess of potassium iodide solution a colorless liquid is obtained containing the mercuric iodide as a complex salt approximately K_2HgI_4 (or $2KI+HgI_2$). Under suitable conditions (Naylor and Chappel Pharm J, Mar 7 1908 p 315) the salt having the composition $K_2HgI_4+3H_2O$ (or $2KI+HgI_2+3H_2O$) may be obtained in yellow needle shaped crystals

Potassium mercuric iodide is deliquescent and is decomposed by water

Actions and Uses—The same as mercuric iodide, over which it is claimed to have some advantages because of its solubility.

Proprietary Preparation·

SOLOID MERCURIC POTASSIUM IODIDE.

Tablets said to contain in each tablet mercuric potassium iodide (potassium mercuric iodide) ($HgI_2.2KI=K_2HgI_4$) 0.113 Gm (1.75 grains), an excess of potassium iodide which prevents the decomposition of the potassium mercuric iodide when water is added and a trace of coloring matter

Prepared by Burroughs Wellcome & Co, London and New York

(To be continued.)

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, DECEMBER 19, 1908.

HEMOLYSIS IN CANCER.

It has long been a matter of common belief that the grave anemia and cachexia occurring in so many cases of cancer can not always be explained by the mere mechanical action of the tumor. Bard,[1] in 1901, having observed the frequent occurrence of hemolysis of corpuscles in cancerous pleural effusions, suggested that such hemolysis might well constitute a factor in the production of the cancerous cachexia. In recent years efforts have been made to clear up this matter of the toxicity of cancer by experiments; and the results, while still incomplete, are worthy of consideration, particularly those dealing with the hemolytic properties of tumor extracts and of the serum of sufferers from cancer.

The results obtained with tumor extracts with practical uniformity show the existence in them of hemolytic substances. Some investigators report positive results in all their cases, others in a considerable proportion. Weil[2] recently found no essential differences, beyond one of degree, between the extracts of non-necrotic tumors and those of certain normal organ extracts which have been known for some time to possess hemolytic powers. Necrotic tumors, however, yield a far more actively hemolytic extract, which differs from that of the non-necrotic tissues in greater simplicity of composition and probably also in stability to heat.

Of the contributions to the study of isohemolysis by serum of cancer patients, two of the most important are by Weil and Crile. Weil[3] attacked this phase of the subject by experiments on inoculable lymphosarcoma of dogs. He found that both the serum and the corpuscles of animals suffering from these tumors manifested departures from the normal, the former becoming distinctly more hemolytic, the latter more resistant to hemolysis. In cases of human cancer, however, he was not able to get such striking results. Forty per cent. (6 cases) of early and 56 per cent. (9 cases) of his cases of advanced cancer showed similar changes to those obtained in dogs with lymphosarcoma. He obtained a similar result in 1 of 3 cases of benign tumor, also in 11 of 43 cases of other diseases. He concludes therefore that the change can not be considered as pathognomonic of malignant disease, although he admits that it is much more frequently found here *than in any other condition.*

The results of Crile's[4] work, on the other hand, point more strongly toward the specificity of the reaction. He obtained isohemolysis in 130 of 153 cases of cancer, and this for the most part early in the disease; and hemolysis in 55 of 123 cases of miscellaneous diseases, including 48 of 52 cases of tuberculosis. Crile *states, however, that the reaction of tuberculosis differs* from that of cancer in that in the former cases normal serum hemolyzed the patients' corpuscles; this did not occur with cancer. With 211 normal individuals the results were negative.

Other observers, in the main, report less satisfactory results. Rosenbaum,[5] using the corpuscles of various animals, obtained positive results in 54 cent. of the carcinoma cases he tested. Kelling,[6] likewise using animal corpuscles, obtained hemolysis in 119 out of 265 cases of cancer, and in only 11 of 320 cases of other diseases. It is of interest that he obtained negative results in several cases of cancer of the pylorus, some of which later showed hemolytic activity after improvement in general condition following gastroenterostomy. This agrees with the fact observed by Crile that negative results not infrequently are obtained in cases of advanced cancer. More recently Fischel,[7] using Kelling's technic, obtained positive reactions in 2 of 4 cancer cases, but also in several cases of various other diseases.

It is evident from the foregoing that it is too early to ascribe an unqualified diagnostic value to the occurrence of hemolysis in cancer. The work, however, is of value in elucidating the phenomena of anemia and cachexia in cancer, and further investigation, with improvement in method and technic, may some day give us in the hemolytic power of the serum of cancerous patients a diagnostic reaction of great value.

THE HARD PALATE IN NORMAL AND FEEBLE-*MINDED* INDIVIDUALS.

The conclusion that idiocy and degeneracy are especially marked by deformities of the palate has been widely accepted. This proposition was sustained by Dr. J. L. Down, who was at the head of Earlswood Asylum for the Feeble-Minded in England. By measurement he found a narrow and high palate so common that he concluded that these characteristics were peculiar to persons imperfectly developed intellectually. That there was some reason to doubt this conclusion was shown by N. W. Kingsley, an American dentist, who took the pains to re-examine the mouths on which Dr. Down had based his conclusions. In a *paper published* in 1875 Kingsley said: "About 2 per. cent. might be said to be pronounced cases of narrowed or V-shaped arches, and another 5 to 10 per cent. might be said to have more or less tendency in that direction; but of the more positive cases I did not see one so marked as I have seen and treated in private practice and associated with full intellectual development."

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[1] Sem. méd., 1901, xxi, 202.

[2] Jour. Med. Research, 1907, xvi, 287.

[3] Jour. Med. Research, 1908, xix, 281.

[4] The Journal A. M. A., Dec. 12, 1908, li, 2036.

[5] München. med. Wchnschr., 1908, lv, 443.

[6] Berl. klin. Wchnschr., 1907, xliv, 1355.

[7] Berl. klin. Wchnschr., 1908, xlv, 882.

The refutation by Dr. Kingsley failed, however, to be received as final, and investigation by other workers seemed to sustain the opinion of Dr. Down. The theory of stigmata of degeneracy became popular, and it was generally accepted that the narrow and high palate was one of the stigmata. Dr. Walter Channing undertook to investigate the subject and in 1897 published his results, arriving at the following conclusions:

1. Two-fifths of the palates of idiots are of fairly good shape. 2. Palates of normal individuals may be deformed. 3. The difference between the palates of idiots and those of normal individuals is one of degree and not of kind. 4. In either case deformity of the palate shows irregular development anatomically. 5 Palates of average children and those of idiots, under 8 years of age, probably do not in the majority of cases differ markedly. 6. There is no form of palate peculiar to idiocy. 7. The statement that a V-shaped or other variety of palate is a stigma of degeneracy remains to be proved.

To test this matter more fully, Channing and Wissler[1] have measured a large number of casts of the mouths of both normal and pathologic individuals, using the principles of anthropometry. They attempt to distinguish by mathematical formulas and statistical tables between differences due to real and those due to accidental variations. Exact measurements are made to take the place of mere inspection, a quantitative method being substituted for the ordinary qualitative one.

The results of the examination show a slight difference in degree but not in the kind of variability between the normal and the feeble-minded. While the palates of the feeble-minded exhibit somewhat greater variability, the variations are seen to be about equal in both directions from the average, thus failing to substantiate the assumption that the palates of the feeble-minded are relatively narrow. Finally, all the differences in size discovered by Channing and Wissler are too small to be detected by the eye and are of no clinical value. The results suggest that the differences in variability shown for the feeble-minded are due to a general retardation effect during the first few years of life.

COMBINING CLINICAL AND LABORATORY WORK.

The opening of the new laboratory of experimental medicine and the inauguration of a new chair in that subject at Western Reserve University form a notable event in the development of medical research and education. For many years the dominant tendency of medicine has been toward specialization. The rapid advance, both of the fundamental medical sciences and of the practical arts of medicine and surgery, has to a great extent been rendered possible only by this ever-increasing specialization. But the time has come—and this fact is recognized by all—when this minute subdivision of knowledge and of effort, so admirably an instrument of progress up to a certain point, threatens to separate our science into a number of isolated fields, each known only to its own cultivators, and especially to hinder those fundamental studies, sometimes inappropriately called "theoretical," from those designated by a superficial antithesis the "practical" branches.

It is as vain to hope as it would be unwise to desire that the investigator, in the one field or in the other, should cease to specialize. He must specialize in order to discover new truth. The only antidote to excessive specialization is to provide the means of synthesis. It is the aim of such a laboratory as is here referred to to aid in this synthesis, to do something toward bridging the gap between laboratory and clinical work, primarily as regards investigation, but also in relation to the instruction of students. To better accomplish it—and this is a matter of peculiar interest and importance—a definite official contact with clinical material in one or more of the local hospitals is to be assured to the laboratory staff by the appointment of the director and possibly of other members of the staff to clinical positions. In this way it is hoped to provide for the exact clinical study of selected groups of cases, combined with experimental study not only of material obtained from the cases but also of the clinical phenomena so far as they can be reproduced or elucidated by simultaneous investigations on animals.

It is this definite association of the laboratory with the hospital which constitutes the special feature of this new foundation and defines its special field. The field of medical teaching will profit by the creation of more laboratories of this very sort. We now possess a not very small and a growing number of clinical laboratories of experimental pathology and institutes for medical research. The Cushing laboratory at Cleveland is not merely an addition to this important, and, indeed, indispensable group. It is not, for example, intended to be a miniature of the Rockefeller Institute at New York, for it is an integral part of a medical school and intimately related to the hospitals associated with that school. It will not usurp the functions of the clinical laboratory, for its special office will not be the examination, chemical, histologic or bacteriologic, of material for purposes of diagnosis. Nor will it encroach on the domain of the laboratory of experimental pathology, properly so-called, for it will not, in general, undertake the investigation of problems of diseased function as laboratory problems alone. It is the definite and system atic association of the experimental with the clinical work which constitutes the distinctive note of the new departure, and it is chiefly this which renders it so interesting and promising a venture.

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[1] Channing, Walter, and Wissler, Clark: The Hard Palate in Normal and Feeble-Minded Individuals. Anthropological Papers of the American Museum of Natural History, I, part 3. Paper. Pp. 349, with illustrations. Price, $0.50. New York: Published by Order of Trustees.

THE DOCTRINE OF LYMPHATIC PERMEATION IN CANCEROUS METASTASES AND ITS SIGNIFICANCE FOR RADICAL OPERATIONS.

Few contributions to medical knowledge should meet with a more cordial reception than one increasing the brightness of the ultimate prognosis in operations for cancer of the breast. Such a contribution seems to exist in the researches of W. Sampson Handley[1] on the "modes of dissemination of breast cancer metastases."

The only hypothesis which has gained wide acceptance as an explanation for cancer metastases in the parietes and viscera is that which attributes the secondary growths to a transmission to distant parts of cancer emboli, which have reached the blood stream through the lymphatics or by direct invasion of a vein. But, if cancer metastases are the result of embolic dissemination, how do the lungs ever escape? Why are the liver and the skeletal system so frequently the seat of secondary growths, while the spleen is relatively immune? These and other equally poignant objections have long rendered the embolic hypothesis untenable for many observers; it appears to have survived merely in default of a more worthy successor.

Handley, from a careful clinical, macroscopic and microscopic study of cancer dissemination, concludes that, while blood embolism may occasionally be responsible for secondary growths, it is, comparatively speaking, a negligible factor, the real danger being a progressive permeation by cancer cells of the lymphatic vessels which lie just superjacent to the deep fascia. This vast lymphatic system, which may be termed the fascial lymphatic plexus, is coextensive with the body, receiving vertical tributaries from the skin and from the tissues subjacent to the deep fascia. In a convincing way Handley has shown that the permeation of this lymphatic meshwork by growing cancer cells is the true explanation of metastatic cancer. The growth of the cancer cells along the lymphatics is not alone in a horizontal direction, but they permeate upward through the skin tributaries, forming cutaneous nodules, and downward through the deep connections, producing visceral metastases.

It is impossible to speak here of the many interesting details of the author's work, but the immense practical bearing of his conclusions on the operation for breast cancer and on the ultimate prognosis is obvious. The surgical indications are clear. Since dissemination takes place along the deep fascial lymphatic plexus by a process of permeation, an operation for breast cancer should and does include not only a liberal removal of skin, but also a widespread removal of the adjacent deep fascia.

LETTER BROKERS AND THE CONFIDENCES OF THE GULLIBLE.

Our exposure of the Epileptic Institute Company of Cincinnati in The Journal, Nov. 28, 1908, called attention once more to the close relation between the letter brokerage business and advertising quacks. Kalmus, the promoter of the Epileptic Institute, made a practice, the report said, of "purchasing the names and addresses of epileptics from the Guild Company of New York." This is but another concrete instance of the fact that people who are foolish enough to confide in these advertising quacks are not only "squeezed" for all that can be got out of them, but that insult is added to injury. The confiding patient, sooner or later, realizes that he has been fleeced. Then, being commercially valueless to the quack who has robbed him, his name and address and the letters he has written are sold to agencies that make a business of reselling or renting out such good gullible material for kindred frauds to prey on. We have in our possession a list of letters for rent by this same Guild Company, containing communications on such subjects as syphilis, female complaints, drug habits, alcoholism, etc., addressed by sufferers to various advertising quacks. These letters assuredly were written under the belief, and doubtless often under the direct assurance, that the writer's private and personal confidences would be closely guarded. It can hardly be supposed that the misguided sufferers would have laid bare the most intimate of personal details had they supposed that their letters would be not only handled and read by sundry people, but let out on hire to any quack who will pay the price. Yet it is by this means that the gullible sick are bombarded with circulars regarding their illnesses, in which the advertisers "have become interested" through the tender solicitude of some mysterious "friend."

FOOTBALL CASUALTIES.

Reformed football, judging from the results of the late season, seems to be about as fruitful in serious accidents as it was before the change of rules, which, it was supposed, would render the game less objectionable in this respect. The reported cases of broken arms, legs, ribs, collar bones, etc., are more numerous than they were last season, and while it is too early yet to reckon the fatalities, since in many cases death is not immediate, the number is still a formidable one, considering the fact that at the most the number of participants in the game is comparatively small. One game is reported in which seventeen players had to be removed unconscious from the field, five of them injured so severely as to require hospital care. There is evidently need for more improvement.

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[1] Cancer of the Breast and Its Operative Treatment. London, 1906.

Medical News

CONNECTICUT.

Society Meeting.—At the semi-annual meeting of New Haven County Medical Association, the followng officers were elected.: Dr. William J. De Laney, Naugatuck, president; Dr. Frank N. Loomis, Derby, vice-president; Dr. William S. Barnes, New Haven, clerk (re-elected); Dr. Charles S. Rodman, Waterbury, member of executive committee (re-elected); and Drs. Norton R. Hotchkiss, New Haven, Henry G. Anderson, Waterbury, and Edward W. Smith, Meriden, censors.

Against Contract System.—The Bridgeport Medical Society, at a meeting November 17, took action to prevent its members from making contracts with fraternal organizations to treat members on a per capita basis. A resolution was adopted whereby the by-laws were amended to take effect January 1, prohibiting any member of the society from holding a contract with any fraternal organization, and members of the association will be prohibited from consulting with contract physicians after that date.

ILLINOIS.

Psychopathic Hospital to be Recommended.—The citizens' committee, which recently investigated the Cook County Hospital for the Insane, Dunning, in its official report, recommends the establishment of a psychopathic hospital, where patients can be treated before being committed to the state hospitals.

Personal.—Dr. John C. Gunn, Bellville, has returned after six months abroad.——Dr. Charles F. Read, Genvea, has been appointed assistant physician in the Illinois Eastern Hospital for the Insane. Hospital.——Dr. William B. Peck, Freeport, who has been abroad for a year, is expected to return and resume practice early in January.

Chicago.

Personal.—The condition of Dr. Sarah Hackett Stevenson, who has been ill for a long while in St. Elizabeth's Hospital, is reported to be critical.——What is supposed to have been a bomb was thrown into the automobile of Dr. Merritt O. Hoover, an official of the health department, December 7. Dr. Hoover is said to have admitted that he had received several threatening letters prior to this occurrence.——Dr. Joseph Springer has been appointed coroner's physician, vice Dr. Otto W. Lewke, resigned.——Dr. Edmund J. Doering has returned from England.

Mortality of the Week.—During the week ended December 12, 537 deaths were reported to the Department of Health, 17 more than for the preceding week and 57 fewer than for the corresponding week of last year, the respective annual death rates per 1,000 being 12.92, 12.52, and 14.70. Pneumonia caused 79 deaths; heart diseases, 57; consumption, 53; violence (including suicide), 38; acute intestinal diseases, 33; cancer, 31, and nephritis, 30; while of the chief communicable diseases there were 23 deaths due to diphtheria; 14 to scarlet fever; 5 to measles, and 2 to typhoid fever. There was a marked reduction in the deaths from impure air diseases, which were 44 fewer than for the corresponding week of 1907.

Contagious Diseases.—The chief medical inspector gives a brief summary of the contagious disease situation for the week ended December 12. During the week 867 cases were reported to the department, distributed as follows: Diphtheria, 222; scarlet fever, 213; chickenpox, 132; measles, 98; tuberculosis, 82; typhoid fever, 47; pneumonia, 26; whooping cough, 21; and diseases of minor importance, 26. Compared with the preceding week there were 30 more cases each of diphtheria and scarlet fever, 39 more of chickenpox, and 12 more of whooping cough. During the week the medical inspectors excluded 442 out of 12,227 pupils examined on account of contagious diseases. The principal causes of exclusion were: Diphtheria, 5: contacts, 23; scarlet fever, 11; contacts, 11; measles, 7: contacts, 14: chickenpox, 52; contacts, 19; whooping cough, 1: contacts, 2: mumps, 12; contacts, 3; tuberculosis, 3; tonsillitis, 104; pediculosis, 46; favus, 2; scabies, 15; impetigocontagiosa, 60; ring worm, 17, and conjunctivitis, 8.

INDIANA.

Personal.—Dr. Edgar C. Loehr, Noblesville, has been reappointed secretary of the Hamilton County Board of Health.——Dr. Francis M. Ihrig, Goshen, has been re-elected secretary of the Board of Health of Elkhart County.——Dr. Frederick W. Shaley, Terre Haute, has succeeded Dr. Maurice B. Van Cleave as secretary of the Vigo County Board of Health.——Dr. Henry W. Held, Vincennes, who has been seriously ill, is reported to be imporving.——Dr. J. Willard Parrish, Shelbyville, is reported to be seriously ill with appendicitis.——Dr. Lorin W. Smith, Wabash, who was recently operated on for septicemia, is reported convalescent.——Dr. George T. MacCoy, Columbus, has been appointed a member of the State Board of Health.——Dr. William O. Gross has been elected secretary of the Hope Hospital Association, Fort Wayne.——Dr. Leopold Heimann, Evansville, has returned from Europe.

IOWA.

Sanatorium Cornerstone Laid.—The cornerstone of the new state sanatorium at Nevada, was laid November 11, with impressive ceremonies.

Itinerants Refused License.—At the October meeting of the State Board of Medical Examiners, itinerant practitioners' licenses were refused to Drs. Wilbur, W. E. and J. F. Shallenberger. The board announces that there are in Iowa only two itinerant practitioners, Drs. B. A. Stockdale and A. H. Weber.

Personal.—Dr. Charles J. Plonske, Bancroft, has returned after a year abroad.——Dr. William E. Sanders, Alta, has returned after two years abroad and has accepted a voluntary assistantship in Johns Hopkins Medical School, Baltimore.——Dr. Rosa M. Upson Liebig, Marshalltown, has been appointed overseer of the poor.——Dr. Alexander W. Trout, Perry, was struck by a locomotive recently, and seriously injured.

KENTUCKY.

Correction.—In The Journal of September 12, was printed a death notice of Dr. Manuel H. Davis, Mays Lick. This notice was incorrect, as Dr. Davis is reported to be alive and in good health, and in active practice. The information on which the notice was based was the September, 1907, number of the *Louisville Medical Journal*, which noted the death of "Dr. M. A. Davis of Mayslick," but evidently referred to the late Dr. James D. Davis of Maysville.

Epidemic Diseases.—The secretary of the State Board of Health announces that smallpox has existed in Hopkins county for several weeks. There is no isolation hospital in the county and the disease has spread until it is reported that there are about 25 cases in Madisonville and others in many of the mining towns in the county. Negroes are chiefly afflicted. A contract has been awarded for the erection of an isolation hospital near Madisonville for white patients, and another will be built and used for colored patients.——Typhoid fever is reported to be epidemic in Georgetown, and on this account Georgetown College has been closed until January 5.

MASSACHUSETTS.

Osteopath Convicted.—John A. Taff, an osteopath of Boston, formerly of Louisville, Ky., charged with practicing medicine without being registered as a physician, is said to have been sentenced to imprisonment for three months in the House of Correction.

Medical Club Election.—At the annual meeting of the Brookfield Medical Club, held in West Brookfield, November 18, the following officers were elected: President, Dr. Albert F. Peck, Spencer; vice-president, Dr. Lawrence T. Newhall, Brookfield; secretary-treasurer, Dr. William J. Heffner, Gilbertville, and executive committee, Drs. Maurice W. Pearson, Ware, Charles A. Blake, West Brookfield, and Albert H. Prouty, North Brookfield.

Against Tuberculosis.—The Northampton Tuberculosis Association, at its annual meeting, elected Dr. Albert M. Belden president.——At the meeting of the Antituberculosis Association, held recently in Quincy, the following officers were elected: President, Dr. John F. Welch; vice-presidents, Drs. Henry C. Hallowell and John A. Gordon; secretary, Dr. Walter L. Sargent; members of the board of managers, Drs. Nathaniel S. Hunting, Willis J. Middleton, Daniel B. Reardon, John T. Reynolds and Elmore R. Johnson.

Free Medical Lectures.—Beginning January 3, there will be given at the Harvard Medical School, on Saturdays at 8 p. m., and on Sundays at 4 p. m., the second annual series of thirty-two free public lectures. The dates, subjects and speakers are as follows:

Jan. 3.—"Fifty Years of Surgery: A Review," by Dr. David W. Cheever, '52.

Jan. 9.—"Some Things Parents Should Know About the Teeth of Their Children," by Dr. Charles A. Brackett, '73.

Jan. 10.—"Anatomical Variations," by Dr. Thomas Dwight, '66.

Jan. 16.—"Auditory Vertigo: Deafness Due to Ear Disease," by Dr. Clarence J. Blake, '65.

Jan. 17.—"Inflammation," by Dr. William T. Councilman, hon., '99.

Jan. 23.—"Diphtheria and Scarlet Fever," by Dr. John H. McCollom, '69.

Jan. 24.—"The Circulation of the Blood," by Dr. William T. Porter.

Jan. 30.—"On the Work for the Relief of the Sick of Various Agencies Other Than Medical," by James J. Putnam, '66.

Jan. 31.—"Rabies (Illustrated)," by Dr. Langdon Frothingham, '89.

Feb. 6.—"Curvature of the Spine, and School Life," by Dr. Edward H. Bradford, '69.

Feb. 7.—"Methods of Testing the Acuteness of Vision and Color Perception," by Dr. Charles H. Williams, '71.

Feb. 13.—"Psychotherapy; Its Use and Abuse." by Richard C. Cabot, '89.

Feb. 14.—"Infantile Paralysis and Its Treatment," by Dr. Edward H. Bradford, '69.

Feb. 20.—"The Teeth of Public School Children; How Related to the Children's General Health and Development," by Dr. William H. Porter, '78.

Feb. 21.—"Psychotherapy; Its Use and Abuse (II.)," by Dr. Richard C. Cabot, '89.

Feb. 27.—"A Study of the Inoculable Tumors of Mice, with Special Reference to Heredity (Illustrated)," by Dr. Ernest E. Tyzzer, '02.

Feb. 28.—"The Hygiene of Pregnancy (to women only)," by Dr. Charles M. Green, '74.

March 6.—"Glucose," by Dr. Lawrence J. Henderson, '98.

March 7.—"Pneumonia," by Dr. Elliott P. Joslin, '95.

March 13.—"Feeding and Its Relation to the Infant's Development," by Dr. John L. Morse, '87.

March 14.—"School Life and Its Relation to the Child's Development," by Dr. Thomas M. Rotch, '01.

March 20.—"Some Facts as to Disease of the Heart," by Dr. Henry Jackson, '80.

March 21.—"The Relation of Gastroenteric Conditions to the Development of Early Life," by Dr. Charles H. Dunn, '96.

March 27.—"Dental Hygiene in the School and Home," by Dr. Samuel A. Hopkins.

March 28.—"State Work in Tuberculosis," by Dr. Arthur Tracy Cabot, '72.

April 3.—"The Work of the Boston Consumptives' Hospital," by Dr. Edwin A. Locke, '01.

April 4.—"Psychotherapeutics," by Dr. Philip C. Knapp, '78.

April 10.—"The Diagnosis and Prognosis of Surgical Affections, with Special Reference to Their Early Detection and Treatment," by Dr. Maurice H. Richardson, '73.

April 11.—"Progress in the Treatment of Cancer," by Dr. James G. Mumford, '85.

April 17.—"Good and Evil Results of Athletics," by Dr. Edward H. Nichols, '86.

April 18.—"The Artificial Illumination of Schoolrooms," by Dr. Myles Standish, '79.

April 24.—"Athletic Sports at Various Ages and Their Probable Results on the Body," by Dr. J. Bapst Blake, '87.

April 25.—"Louis Pasteur," by Dr. Harold C. Ernst, '76.

NEBRASKA.

New Infirmary.—The Franciscan Brotherhood of Poor St. Clares is erecting an infirmary at Twenty-ninth and Hamilton streets, Omaha, at a cost of $31.000.

Society Election.—The Highline Medical Society of Phelps county has elected Dr. William A. Schreck, Bertrand, president; Dr. G. E. Charton, Moorefield, vice-president; and Dr. Alfred E. Reeves, Farnam, secretary-treasurer.

Personal.—Dr. Frederick J. Wearne, Omaha, has gone to Europe.——Dr. Archibald G. Fletcher, Orchard, has decided to enter the missionary field and expects to go in a short time to Corea or China.——Dr. H. H. Blodgett has been made assistant to Dr. Emanuel S. Wenger in the Burlington medical department, Lincoln.

NEVADA.

State Society Election.—At the annual meeting of the Nevada State Medical Associaton, held in Reno, November 10 and 11, the following officers were elected: President, Dr. John A. Lewis, Reno; vice-presidents, Drs. George F. Pope, Battle Mountain, and Walter W. Ryan, Goldfield; and secretary-treasurer, Dr. Sidney K. Morrison, Reno. Resolutions were drafted and sent to the Nevada senators and congressmen, appealing to them to do all in their power to support the policy of President Roosevelt regarding a national health bureau, and calling their attention to the Committee of One Hundred, which, through its chairman, Dr. J. N. McCormack, will bring this before Congress in the near future.

NEW YORK.

Presentation to Dr. Park.—Students of the senior class of the Medical Department of the University of Buffalo, presented Dr. Roswell Park with a silver service in honor of his completion of a quarter of a century as professor of surgery in the institution.

Optometry Rules Approved.—Rules governing the practice of optometry were approved on December 10 at a meeting of the regents of the university, Albany. The regulations affecting the examination of applicants are along the lines of those prescribed by the recently enacted law. It was provided that the minimum time in registered schools should, after a reasonable time, be two years. Students in any of the schools now in existence will be eligible to try the tests next January.

Personal.—Dr. Renwick R. Ross, superintendent of the Buffalo General Hospital, has declined the superintendency of Bellevue Hospital.——Dr. Russell B. Lynn, Waverly, has sailed for Vienna.——Dr. Charles G. Child, Jr., New York City, has been appointed visiting gynecologist to the City Hospital.——Dr. Hiram B. Manchester has been elected town physician of Batavia.——Dr. Earl G. Danser, Buffalo, has been appointed medical examiner, and Dr. John D. Howland, Buffalo, assistant medical examiner of Erie county.——Dr. Herbert W. Williams, Buffalo, sustained painful injuries in an automobile accident recently.

Vital Statistics.—The returns of deaths for October show a slight decrease as compared with last year. There were reported 10,880 deaths, equivalent to an annual death rate of 15.3 per 1,000, while the rate for October, 1907, was 16.6 per 1,000. There were 169 deaths from typhoid fever, 55 more than for October, 1907, and 32 fewer than for a five year's average for the month. Deaths from measles and diphtheria decreased from 34 and 195 to 13 and 172 respectively. Pulmonary tuberculosis caused 4 more deaths than in October, 1907, and 6 more than the average for five years. Malignant disease shows an increase of 61, as compared with last year. Diseases of the nervous system caused 896 deaths, or 287 fewer than for last year. There were 148 deaths from suicide, 15 from homicide, and 424 from accidents.

State Sanitary Officers in Convention.—The eighth annual conference of the sanitary officers of the state was held in Albany on December 1, 2 and 3. At the opening session Dr. A. H. Garvin of the New York State Hospital for the Treatment of Incipient Pulmonary Tuberculosis at Raybrook gave a clinical demonstration of the various measures employed in the diagnosis of incipient tuberculosis. Dr. Alec H. Seymour, secretary to the State Department of Health explained the new law relating to the registration of tuberculosis cases and Dr. Eugene H. Porter told of the results of the work of the state department and the plans that were under way for relieving water pollution in the future. On the second day, Governor Hughes received the delegates to this convention and made an address. The problems of pure water and pure milk were discussed. A few interesting facts were brought out in regard to vital statistics. New York State has a higher death rate than Maryland, Colorado, Maine, Connecticut, New Jersey, Vermont, New Hampshire, Pennsylvania or Massachusetts, but a lower death-rate than Rhode Island and perhaps California. The death rate of New York City has decreased steadily and rapidly since 1872, but is still higher than that of London, Paris or Berlin. The birth rate of New York State, if statistics are correct, is lower than that of any other state except Michigan.

New York City.

Gift for Hospital.—The Hospital for Deformities and Joint Diseases has just received $5,000 as the net proceeds of a bazaar.

Parks Should Have Dairies.—The agitation for dairies in the various city parks has resulted in raising by subscription over $1,500 for this purpose.

Harvey Society Lecture.—The sixth lecture on the Harvey Society course, delivered by Prof. A. B. Macallum of the University of Toronto, on December 19, at the Academy of Medicine, is on the subject of "Osmosis."

The Tuberculosis Exhibit.—Because of the full attendance at this exhibit, the Sunday closing hour will be 10 p. m. instead of 1 o'clock as in the past. On December 6 thousands were turned away after the closing at 5 p. m.

Health Lectures.—The Board of Education is presenting a course of health lectures at the different public schools. These lectures treat of subjects such as the care of the teeth and skin, and suggestions in regard to the prevention of tuberculosis.

Needs Appropriation.—Dr. Darlington has asked the Board of Estimates and Apportionment for an appropriation of $52,000 to pay 100 physicians and 200 nurses employed by the Department of Health in the bureau of school hygiene for the medical inspection of school children.

Tuberculosis Wards Few.—There is a general lack of accommodations for tuberculosis patients in all the city hospitals. The contract for a second building for the new tuberculosis infirmary, which is an addition to the Metropolitan Hospital on Blackwell's Island, has been left. According to the estimates the new building will cost about $200,000, and will have a capacity of 224 beds.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended December 5, 574 cases of tuberculosis, with 153 deaths; 385 cases of diphtheria, with 39 deaths; 271 cases of measles, with 10 deaths; 221 cases of scarlet fever, with 7 deaths; 77 cases of typhoid fever, with 11 deaths; 37 cases of whooping cough, with 1 death; 5 cases of cerebrospinal meningitis, with 1 death; and 179 cases of varicella, a total of 1,749 cases and 222 deaths.

The Opening of the Tuberculosis Exhibit.—The tuberculosis exhibit was opened November 30 by Mayor McClellan and addresses were made by Health Commissioner Darlington, Robert W. de Forest, president of the Charity Organization Society; Henry F. Osborn, president of the Museum of Natural History; Dr. Abraham Jacobi, and others. The mayor announced that there were at present about 3,500 beds available for tuberculosis patients in the public and private institutions of the city, and buildings were in the course of construction, or have been planned, which will accommodate nearly 1,500 more. Eventually the present plans provide for 6,000 patients. The large crowds attending the exhibition bear witness to the fact that the public is deeply interested. There are a series of meetings especially for physicians, among them a mass meeting of physicians, which was held on Friday evening, December 4, at which Dr. Herman M. Biggs presided. Dr. Darlington has announced that since the department of health has begun its campaign against spitting and has removed advanced cases of tuberculosis to hospitals, furnished sputum cups, and enforced disinfection of rooms vacated by persons suffering from consumption, the death rate from that disease among children under 15 years of age has fallen from 7.1 for each 10,000 of population to 2.6.

NORTH CAROLINA.

Personal.—Dr. Edward R. Michaux, Greensboro, has resigned as medical director of the Security Life and Annuity Company, and will resume private practice. Dr. J. Pinkney Turner, assistant medical director, has succeeded him.——Dr. Ephraim M. Brevard, for several years in practice in Tallahassee, Fla., will return to Charlotte, January 1, and resume practice.

Society Meeting.—At the annual meeting of Mecklenburg County Medical Society, held in Charlotte December 1, the following officers were elected: President, Dr. Annie Laurie Alexander; vice-presidents, Drs. Robert Lafferty and Simril M. Henderson, and secretary, Dr. Leone B. Newell, all of Charlotte.——The Highpoint Academy of Medicine, at its annual meeting December 2, elected Dr. John T. Burrus, president; Dr. Claude E. Reitzel, vice-president, and Dr. G. F. Duncan, secretary-treasurer.

OHIO.

New Building for University.—Cincinnati University is to have a new building for the College of Medical Sciences to cost $275,000, besides $25,000 for equipment.

Cincinnati.

Fight for Pure Milk.—A new step in the fight for pure milk was taken when the Board of Health ordered the dairy stable of Henry Sielkop to be vacated. It is said that a number of other insanitary stables are to receive similar treatment. The milk commission has put under bonds of $500 each five producers and dealers not to sell milk from cows fed on distillery waste. Ten other producers and dealers were each fined $50 and costs.

"Patent Medicine" Prescribers.—At the annual meeting of the Ohio Druggist's Association, held November 24, war was declared on those physicians who prescribe "patent medicines." The druggists declared that the percentage of prescriptions of this nature has become so large that should it continue it would be only a matter of a short time until druggists would be reduced to the position of clerks who "buy large bottles from manufacturers and fill small bottles for the doctors." Edward Noes, Jr., received the unanimous endorsement of the association for membership on the State Board of Pharmacy.

Miami Alumni Election.—At the regular monthly meeting of the Cincinnati chapter of the Miami Medical College Alumnal Association, held November 27, the following officers were elected: President, Dr. John A. Caldwell; secretary, Dr. J. Edward Pierring; and treasurer, Dr. William C. Herman.

PENNSYLVANIA.

Philadelphia.

Tuberculosis Exhibition.—Plans have been completed for the Tuberculosis Exhibition to be held in this city for one month, beginning February 1 and continuing one month The exhibition will be composed largely of the material exhibited at the recent International Tuberculosis Congress in Washington. Among the individual exhibits are eight which received from the Congress prizes ranging in value from $100 to $1,000. Besides these, 44 of the exhibits received gold medals, and 43 silver medals. The exhibit is unique, not only in the fact that it is the greatest of its kind ever gathered together, but also because this demonstration, collected for a purely educational purpose, is used to illustrate the dangers of only one disease.

Health Report.—The total number of deaths reported to the Bureau of Health for the week ended December 12, was 469. This is a decrease of 55 from the previous week and of 99 from the corresponding week of last year. The principal causes of death were: Typhoid fever, 12; diphtheria, 10; consumption, 53; cancer, 29; diabetes, 4; apoplexy, 18; paralysis, 5; heart disease, 47; acute respiratory diseases, 60; enteritis, 25; hepatic cirrhosis, 6; appendicitis, 5; acute nephritis, 7; Bright's disease, 38; premature birth, 11; congenital debility, 8; senility, 5; suicide, 6; accidents, 25; and marasmus, 3. There were 199 cases of contagious diseases reported, with 26 deaths, as compared with 197 cases and 24 deaths reported in the preceding week.

Foes of Nostrums Meet.—Four hundred and fifty druggists and physicians attended a banquet and "getting together meeting" at the Columbia Club, December 9, for the purpose of discouraging the use of nostrums by the public and the prescribing of these agents by the physicians. The meeting was addressed by Dr. Albert M. Eaton, president of the county medical society, and Drs. G. Morton Illman, A. B. Hirsch, Frederick A. Sutliff. Dr. Eaton claimed that the public school should be made available for the education of the public against the use of dangerous proprietary medicines. He said that pharmacists and physicians should be allowed to visit the schools and deliver short plain talks on the dangers of nostrum dosing. He also advocated the introduction of lectures against the prescribing of nostrums into the study course of the senior classes of medical colleges.

Medical Society's Attitude Defined.—At a recent meeting of the Philadelphia County Medical Society, the following resolution, concerning the action of the outside schools, was adopted:

> "WHEREAS, willful misstatements by certain interested elements in the community throw an incorrect light on the attitude of *and are evidently intended to interfere with the regular medical* profession in its efforts to protect the public by suppressing medical criminals and illiterates, be it
>
> "*Resolved*, That the Philadelphia County Medical Society, as the exponent of the recognized profession in this teaching center, declares its belief in the right of a physician to use mental, chemical, mechanical, electrical, manipulative, dietetic or any other legitimate means of treating disease; the same holds true of dosage, small or large. Furthermore, the society embodies the modern spirit as to professional fellowship, and points with pride to its record for broad-minded liberality in election to its membership. Graduates of various 'schools' of practice have been and are now *on its rolls*."

SOUTH CAROLINA.

Medical Scholarships.—The governor of the state has awarded scholarships in the Medical College of the State of South Carolina as follows: W. U. O'Bryan, Manning; J. H. Cannon, Ridgeland: E. E. Epting, Williamston; John M. Beardon, Enoree; Phillip W. Hunter, Yorkville; Floyd D. Rogers, Lake City; and George H. Hennies, Columbia.

Society Meetings.—At the annual meeting of Lexington County Medical Society, held in Lexington, October 5, Dr. William L. Kneece, Baxter, was elected president; Dr. Rufus E. Mathias, Irmo, vice-president, and Dr. James J. Wingard, Lexington, secretary (re-elected).——The annual meeting of Laurens County Medical Association was held in Laurens November 26, when the following officers were elected: Dr. Samuel F. Blakely, Ora, president; Dr. Dorroh H. Ferguson, Laurens, vice-president; Dr. Jesse H. Teague, Laurens, secretary; Dr. Absalom J. Christopher, Laurens, treasurer, and Drs. Samuel F. Blakely, Ora, and William H. Dial, Laurens, delegates to the state association.

SOUTH DAKOTA.

Typhoid Epidemic.—Reports from Clear Lake tell of an alarming epidemic of typhoid fever, for which no cause has as yet been determined.

Election.—At the annual meeting of the Black Hills Medical Association, held in Deadwood, November 15, the following officers were elected: President, Dr. Alfred G. Allen, Deadwood; vice-president, Dr. Adolph M. Giffin, Rapid City; secretary, Dr. Felix E. Ashcroft, Deadwood; treasurer, Dr. Walter L. Vercoe, Lead, and censors, Drs. C. W. Hargens, Hot Springs, and John W. Freeman, Lead.

TENNESSEE.

Dispensary in Police Station.—Under direction of Dr. James L. Andrews, president of the board of health of Memphis, a room in the police station is to be fitted up as a dispensary, where emergency and charity cases may be treated.

Fight Tuberculosis with Phonograph.—The board of health of Memphis has arranged a brief series of lectures on "Tuberculosis," laying stress on the way of avoiding the disease, what to do if the disease is contracted, and making special mention of the spitting habit. These lectures are to be communicated to the people by means of a phonograph placed at the corner of Main Street and Madison Avenue.

Society Meetings.—At the annual meeting of Greene County Medical Society, held November 2, the following officers were elected: President, Dr. Isaac B. Brown, Mosheim; vice-president, Dr. Martin A. Blanton, Baileyton, and secretary-treasurer, Dr. S. Walter Woodyard, Greenville.——At the twenty-seventh semi-annual session of the Middle Tennessee Medical Association, held in Clarksville, November 19 and 20, the following officers were elected: President, Dr. Leonard E. Ragsdale, Williamsport; vice-president, Dr. Benjamin F. Fyke, Springfield, and secretary-treasurer, Dr. R. Logan Jones, Nashville.

VERMONT.

College Opens.—The fifty-fifth annual session of the University of Vermont, College of Medicine, Burlington, commenced *November 7. The principal speaker was Dr. J. W. Seane, professor* of physiology in the university.

Personal.—Dr. D. M. Shea, Burlington, sailed for Europe *October 29.——Dr. Bingham H. Stone has been reappointed* director of the laboratory of the State Board of Health, Burlington, and C. P. Moat, L. P. Sprague, and Hugh Thompson have been chosen assistants.

Infectious Diseases.—On November 16, more than forty cases of smallpox were reported in Brattleboro and half a dozen smaller towns in southeastern Vermont. The diagnosis of the State Board of Health and the Brattleboro Board of Health was confirmed by the chief diagnostician of the health department of New York City. Five new cases of smallpox *were reported November 21. The secretary of the State Board* of Health reports that the severe cases are improving and that there is practically no danger of the spread of the infection. On November 28, there were seventeen houses under quarantine in Brattleboro with twenty-two patients and five patients at the Isolation Hospital.——Typhoid fever is said to be very prevalent at St. Albans, where nearly fifty cases are under treatment.

WASHINGTON.

Society Meeting.—At the bi-monthly meeting of Whitman County Medical Society, *held in Tekoa, November 16, the need* was urged of better laws relative to mental examination of the criminal insane. A committee consisting of Drs. William B. Palamountain, Colfax, Robert J. Skaife, Colfax, and Cardwell, was appointed to confer with the senators and representatives and arrange for the passage of such a law. Dr. William B. Palamountain was elected president; Dr. A. J. Nelson, vice-president, and Dr. J. Earle Else, Palouse, secretary-treasurer.

WISCONSIN.

Personal.—Dr. *William A. Henke, Tomah, has returned from* Europe.——Dr. Leonard E. Spencer, Wausau, a member of the State Board of Health, has retired from practice and has disposed of his practice to Dr. J. R. Bryant.

Antituberculosis Association Formed.—The Wisconsin Antituberculosis Association has been organized at Milwaukee, with 800 charter members, and with the declared object of carrying on the fight against tuberculosis. Dr. Mazyck P. Ravenel, Madison, has been elected president, and Dr. D. C. Baer, Milwaukee, secretary.

Society Meeting.—At the annual meeting of Crawford County Medical Society, held in Wauzeka, November 24, Dr. Frank J. Antoine, Prairie du Chien, was elected president; Dr. B. F. Taylor, Mount Sterling, vice-president, and Dr. George H. Perrin, Wauzeka, secretary-treasurer.

Sanatorium Overcrowded.—The State Tuberculosis Sanatorium, Wales, in which there is accommodation for 60 patients, now has a population of 189, and the board of control has decided to ask permission to borrow $2,000 from the general fund and has asked the legislature for an appropriation for additional buildings.

GENERAL NEWS AND COMMENTS.

New General Hospital.—A general hospital is being constructed in Pueblo, Mexico, to cost about $80,000, and to accommodate about 600 patients. It is expected that the institution will be ready to open in the fall of 1909.

Physician Wanted for Hospital for Insane.—The United *States Civil Service Commission* announces an examination on Jan. 13, 1909, at the regular locations throughout the United States, for a medical interne (female) in the Government Hospital for the Insane, Washington, at $600 a year, with maintenance. Each applicant must be unmarried, a citizen of the United States (or about to become such), a graduate of a reputable medical college within two years, and not under 20 years of age. The applicant may apply to the commission at Washington, or to the secretary of any board of examiners. Request should be made for application blank 1312. The commission has experienced difficulty in filling this vacancy, and therefore calls particular attention to this examination.

Society Meetings.—At the annual meeting of the New England Pediatric Society, November 28, papers were read on "Psychotherapy as Applied to Children," by Dr. Alexander C. Eastman, Springfield, Mass.; on "Aplastic Anemia," by Dr. Ralph C. Larrabee, Boston, and Dr. Timothy Leary, Boston; on "Fibroid Phthisis in Childhood," by Dr. Arthur W. Fairbanks, Boston; and on "Human Milk in the Treatment of Various Infections," by Dr. Francis P. Denny, Brookline, Mass. Dr. Charles W. Townsend, Boston, was chosen president; Dr. Addison S. Thayer, Portland, Maine, vice-president; Dr. Fritz B. Talbot, Brookline, Mass., secretary and treasurer, and Dr. Arthur H. Wentworth, Boston, member of the council.——The annual meeting and dinner of the Interurban Academy of Medicine was held in Superior, *Wis., November 18. Dr. John* M. Robinson, Duluth, was elected president; Dr. H. Jefferson O'Brien, Superior, vice-president; Dr. C. T. Haney, Duluth, secretary-treasurer, and Dr. George H. Conklin, Superior, censor.——At the twenty-fifth annual convention of the Tri-State Medical Association of Arkansas, Mississippi and Tennessee, held in Memphis, November 24, 25 and 26, the following officers were elected: President, Dr. William H. Deaderick, Marianna, Ark.; vice-presidents, Drs. T. S. Hare, Vincent, for Arkansas, S. Wade Glass, Dublin, for Mississippi, and James A. Porter, Ripley, for Tennessee; secretary, Dr. J. H. Eugene Rosamond, Memphis, and treasurer, Dr. J. A. Vaughn, Memphis.

FOREIGN.

The Nobel Prizes.—News by cable confirms the statement in The Journal last week, page 2069, that the Nobel prize for medicine was to be divided this year between P. Ehrlich of Frankfurt a. M. and E. Metchnikoff of the Pasteur Institute, Paris, the leading immunologists of the world. Ehrlich was the guest of the University of Chicago in 1904, when an honorary degree was conferred on him. He also was presented in 1906, at the International Medical Congress at Lisbon, with the surplus left from the Paris International Medical Congress, which was awarded as a prize for his side-chain theory and work based thereon. Ehrlich was born in a small German town in 1854, and was Koch's assistant at Berlin until he became director of an institute for serum research and experimental therapy in 1896. Metchnikoff is a Russian, and, after studying in Germany, was professor of zoology and anatomy at Odessa until 1882, when he settled at Messina, where he published his works on phagocytosis. In 1886 he returned to Odessa as director of the bacteriologic institute, but preferring research to practical work, he offered his services to Pasteur, who placed a laboratory at his disposal, and here he has remained, notwithstanding brilliant offers from Russia and America. Metchnikoff never took a degree in medicine, but his theoretical, abstract work has supplied a solid basis for concrete medical achievements. The recipients of the Nobel prize for medicine have been: 1901, Behring; 1902, Ross; 1903, Finsen; 1904, Pawlow; 1905, R. Koch; 1906, Golgi and Cajal; 1907, Laveran, discoverer of the malaria parasite. Germany, Great Britain, Denmark, Russia, Italy, Spain and France have thus been honored, and this year the prize is divided between Germany and France. The only prizes that have come to America were the peace prize in 1906, given to President Roosevelt, and the physics prize last year awarded to A. Michelson, professor of the *Chicago University*. The chemistry prize this year was given to E. Rutherford of Manchester, England, who until within a year or so was professor *of physics at McGill College at Montreal.*

The Annual Burlesque Number of the Munich Medical Weekly.—The ninth comic number of the *Münchener medizinische Wochenschrift* has just been issued in honor of the seventy-fifth anniversary of the Munich medical union. It is sparkling with skits on all the latest medical achievements and topics. Not the least comical feature is that the journal is printed with the same departments, type and general make-up so that a second glance is necessary to detect the preposterous transformation in every department and advertisement. A new surgical instrument is described for which high claims are made, even to the extent of its inducing local anesthesia. It is called the tintinnabulotome, and consists of a scalpel with a baby's rattle on the outer end. The knife is concealed in the hand, and the child is pleased with the sound of the rattle. As it is a physiologic law that two sensations can not be perceived at the same time, the sensation of pain from the incision is overcome by the pleasurable auditory stimulus. In the "Current Literature Department," the *Grenzgebiete der Utopie und Ironie* is reviewed, with an abstract of an article which describes an improvement in the technic of lightning treatment of cancer, the author having succeeded in greasing the lightning. One review refers to "Rapid Medical Abstracts," indispensable for any physician who attempts to make summaries of medical articles. The author advises leaving the pages of the original uncut, as abstracts no longer attempt to give the ideas of the original author. The up-to-date abstract presents the views of the abstractor only. Editorial comment on this new book deplores the bad taste of those journals which have not yet outgrown the old practice of redigesting what the author has already digested. An original article describes the advantages of "Side Chains in Infant Feeding.". The writer listened to a lecture on "Side Chains," but could not make much out of it. He then asked a pharmacist if he kept side chains in stock, and the pharmacist supplied him with a "side chain powder," which he has been using with fine results in infant feeding. He confesses that he does not know what is in the powder, but he does not believe that those who give Mellin or Nestle or the like, know always what is in them. The results speak for themselves. A warm testimonial on a new preparation to promote the secretion of milk states that 17 of the 20 newly married women, to whom "Milchagol" was given, found their breasts increasing in size in a few months and were able to nurse their new-born children from one to forty weeks. It is mentioned that testimonials from the same author on 27 other new medicinal preparations are soon to be published. In "Correspondence" an inquirer wrote to know how long he should continue to treat heart disease with high power electric baths. The reply was given, "As long as the patient can stand it," and the inquirer writes again to know whether this refers to the physical or financial condition. The advertisement of the meat juice, Pureau, states that each jar represents a condensed ox, and that the juice is a most remarkable tonic for all who sell it, wholesale or retail. The advertisements for assistants state as the one requirement "ability to keep an automobile in repair." An internist who has hitherto had only chemical and histologic experience, but is a good hand with rabbits and dogs, advertises that he would like to get a little bedside experience during his free evening hours, to fit him for a professorship in internal medicine. A "Letter from America" denounces the German medical schools as not providing sufficient material for the students in proportion to their number. No student can learn how to manage a childbirth when there are only 900 in the year to 1,400 students. The writer during his course at a German medical school had opportunity to "conduct" a childbirth once in his entire course of obstetrics, and there were 18 other students and assistants present. He was able to catch a glimpse of the woman's arm and he heard the child cry—that was the extent of his connection with the case. In America, the writer continues, things are much better managed, there being plenty of medical colleges and plenty of childbirths so that there is no overcrowding. At the lying-in hospital connected with Honduras College, for instance, there are 3,000 childbirths annually and only 30 students following the course—the other 150 matriculated medical students are all away playing football or else are in the hospital being patched up after football. The writer ridicules the idea of teaching obstetrics from manikins, and says that it is much better to have 30 students to teach instead of 600 who crowd the amphitheater, but never come into personal contact with the teacher and can scarcely hear him, much less see him, on account of the crowding; who never get a chance to manage a childbirth or treat after-hemorrhage during their entire course, and yet are liable to penalty if they are guilty of any malpractice later. The comments on this delightful burlesque that have been made in previous years in The Journal apply to this latest number as well, and the "Berlin Letter" in these columns during the last few months gives the clue to some of the satires.

LONDON LETTER.

(From Our Regular Correspondent.)

London, Dec. 5, 1908.

Exhibition of Classified Drawings at the Polyclinic.

Sir Jonathan Hutchinson's exhibitions of classified drawings in his Clinical Museum at the Polyclinic are attended by large and interested audiences. The present exhibition deals with syphilis and is the largest yet made, over 500 drawings being displayed. On Wednesdays at 3 p. m. Sir Jonathan gives demonstrations in which he turns his collection to considerable account. The most important statement which it illustrates is that the term "soft chancre" has no definite meaning. A large collection of drawings of sores so termed by various writers is shown. The sores vary much in character and conform to no type. Sir Jonathan would abolish the term "soft chancre" entirely. All that can be said about a sore which does not show the characteristic induration of the true chancre is that it is not indurated, but the absence of induration is no guarantee whatever that the phenomena of syphilis will not supervene. In close connection with this group is a very important one termed by Sir Jonathan "herpetic chancres." It illustrates multiple sore in the coronal furrow arranged like a group of herpetic vesicles. Sir Jonathan suggests that sores which, owing to their multiplicity, have hitherto been regarded as typically "soft," are those of herpes which have been inoculated by venereal discharges, and of which one or more may assume induration at any time. Thus, multiplicity is by no means always a proof of autoinoculation and the term "herpetic chancres" becomes applicable. Portraits of unilateral groups of white patches in the mouth and throat described as "mucous patches" are also shown. Sir Jonathan also suggests that these are examples of herpes. The curious condition known on the European continent as "syphilitic leucoderma" on the back of the neck and shoulders is shown in several portraits. It does not appear to have ever been observed in England. Sir Jonathan Hutchinson suspects that the dappled appearance produced is caused by a deepening of tint rather than by bleaching and thinks that Fournier's appellation, "pigmentary syphilis," is the best.

The National Hospital for the Paralyzed and Epileptic.

This famous hospital, which may be described as the home of British neurology, since almost all the great neurologists of this country are connected with it, is again in need of enlargement. In half a century it has developed from a small house in Queen Square, Bloomsbury, in which the work was started, into a large hospital with 160 beds and 4,000 outpatient attendances annually, and a convalescent home in East Finchley standing in extensive grounds. A notable feature of the wards is the connection of each with a large and comfortably furnished day-room which is a boon to those patients not confined to bed. An increasing strain has been thrown on the electric department, where there are over 11,000 attendances annually. The accommodation is now limited to two small rooms. In consequence of the space required for the more modern *x*-ray and other apparatus, and the number of patients now attending, this department has had to be enlarged. There is an excellent up-to-date operating theater where Horsley's operations, so well known throughout the world, are performed. Last year fifty operations were performed on the brain and twenty-three on the spinal cord. To meet the heavy demands an extensive scheme has been drawn up which provides for increased accommodation for outpatients. The clinics are attended by a large number of physicians, British and foreign, interested in the study of nervous diseases. At one time much the most popular clinic was that of Sir William Gowers whose diagnosis of the most recondite nervous diseases was carried to a point seldom equalled and never surpassed. Now his place is taken by Dr. Risien Russell, who is equally popular and displays equal mastery of the subject and at a comparatively early age has attained a foremost position in British neurology.

PARIS LETTER.

(From Our Regular Correspondent.)

Paris, Dec. 5, 1908.

Special Diplomas.

When, about two years ago, there was created the certificate of higher medical studies, which every candidate for the *agrégation* or lowest rank on the medical faculties was to present, the medical profession unanimously protested. The decree was accordingly rescinded, but a "certificate of admissibility to the *agrégation*" was required instead. This did not relieve the situation. Yesterday a delegation from the Congress of Practitioners laid before M. Clemenceau, the prime minister, the energetic protest of the medical profession against a measure tending to create two classes of practitioners. M. Clemenceau declared that he agreed with the physicians, the obnoxious measure being in a way a re-establishment of the old *officiat de santé* (suppressed by the law of 1892).

The practitioners also demand the suppression of the special diplomas given in legal medicine, hygiene, etc. They maintain that the diploma of doctor in medicine ought to be the all-inclusive university degree, and that, as it calls for examination in legal medicine, hygiene, etc., new diplomas ought not to be issued after the doctorate. It is said, to be sure, that not all physicians possess the qualifications to become medicolegal experts. After carrying out the idea to its logical end, however, that is, after creating as many special diplomas as there are branches of medicine, the only thing left to do would be to suppress the degree of doctor of medicine. No doubt division of labor and specialization become daily more obligatory, in medicine as elsewhere; but to make good specialists it is not necessary to create special diplomas; it is necessary to give the students a good foundation of medical knowledge and then to leave each one to develop his special aptitudes. By the creation of special diplomas, the state seems to admit that the guarantees offered by the diploma of doctor of medicine are not sufficient. But, if this be true, it is the duty of the state to modify its system of medical instruction so as to exact better grounded knowledge from pupils.

Supplementary Medical Instruction.

Alongside of the official medical instruction given by the medical school, independent instruction tends to develop more and more in Paris. Thus, a certain number of physicians and surgeons of the hospitals organized last year an Association of Medical Instruction of the Hospitals. A private hospital, founded in 1903 for the special treatment of the victims of industrial accidents, has recently organized a course of instruction on industrial accidents, consisting of free public conferences intended for practicing physicians. They are obliged more and more by the law of 1908 to understand these questions, which enter in a great degree in daily medical practice. Professor Brissaud, Dr. Lucas-Championnière and others give lectures. A series of practical courses for practicing physicians and students will be given, under the patronage of the Catholic Institute of Paris, by a group of physicians and surgeons of the hospitals, former heads of clinics, internes and specialists. These courses will be essentially practical, being accompanied by examination of patients and treatment by students, presentation of instruments; they will comprehend the principal medical specialties.

A New Clinic Founded by Dr. Huchard.

Dr. Huchard has given an example to be followed. He is approaching the time of retirement from the Necker Hospital (the age of retirement is 65, and Dr. Huchard is now 64), but he feels that "repose is found through labor." He has therefore founded a clinic which will meet a need; for, though there are in Paris clinics of various kinds, there has been none up to the present for diseases of the heart and of the cardiovascular system. In creating the "Clinic for the Heart," Huchard intends to establish also a kind of dispensary for indigent patients. At the inauguration of the clinic last week, among a multitude of the friends and pupils of the master, the latter said: "I hope that other clinics may come into existence alongside of this one—that others, like me, may take the title of independent professor, and that an independent school of medicine may grow up in this corner of Paris."

BERLIN LETTER.

(*From Our Regular Correspondent.*)

Berlin, Nov. 12, 1908.

Medical Inspection of School Children.

Fifteen years ago a movement began in Germany to have the children of the public schools regularly supervised in respect to their health not only on their entrance into school, but also during their subsequent attendance, by school physicians, who are appointed by the local, not the national authorities. The published reports of the investigations of the medical inspectors have shown how useful and necessary this movement has been. It is thus made clear that the children of the poorer part of the population, for whom the public schools exist, very often fail to have recourse to medical aid in cases in which it is needed, partly from lack of the necessary means and partly from indolence, and for this reason diseased conditions result which might have been avoided by timely medical treatment. In consideration of this fact the oft repeated request of the medical profession to allow the pupils of the public schools to be supervised by official school physicians has been more and more complied with by the different communities after overcoming the initial difficulties which in many cities, especially in Berlin, were quite great. Now the number of communities which have regular medical inspection of the schools reaches into the hundreds. According to the character of their official position two systems of school physicians are to be distinguished, and regarding the comparative advantages of these systems unanimity has not yet been reached, not even among physicians.

The question under discussion is whether it is better to appoint a physician as school physician as his principal office, that is, to appoint a physician who is to a certain extent a specialist in school sanitation, and whose entire medical activity is restricted to this field, or to appoint a physician in a subsidiary office, that is, to entrust a general practitioner with the additional task of supervising the health of the school children. At the recent annual general medical convention, the Aerztetag, in June of this year, this question was thoroughly debated and the convention reached the following conclusion: In general the achievements in the field of school hygiene do not depend on the system under which the school physician is appointed, but on the personality of the medical inspector and on the improvement in the measures for the physical well-being of the school children. The question whether the school physicians shall be appointed to a principal office or a subsidiary office can not yet be settled at the present time; it depends on the amount of work required and on local and personal conditions. The convention also adopted a series of suggestions for the medical school inspectors, as follows:

1. The young should be familiarized in school with the rules of hygiene. A correct understanding of the rules of health is indispensable for their proper application. This leads to an improvement in the health, welfare and defensive strength of the people and increases thereby the public wealth.

2. In the education of all teachers for public and high schools, hygiene ought to form a special subject of instruction. For this instruction physicians are especially to be chosen as their education and profession guarantee appropriate instruction.

3. With every suitable study the pupils should be reminded of hygiene and held to a constant practice of its rules, but advice as to the treatment of diseases is not permissible. Articles on the care of the health should be introduced into the readers in the schools. For the preparation of such articles in the readers the cooperation of physicians is indispensable. The convention is not prepared to give an opinion regarding the cooperation of the school in instruction regarding sexual matters.

4. Special instruction in hygiene is particularly desirable for the older scholars. In the technical training schools the instruction in hygiene should be assigned to a physician. The appointment of school physicians in all schools will facilitate the carrying out of instruction in hygiene.

5. In order to carry out effectively the instruction and education of the youth of the schools the cooperation of physicians on the school boards is requisite.

An oversight of the work of the medical inspectors is afforded by the report of the Berlin school physicians for 1906-7, which recently appeared. In this year 44 school physicians were employed in the Berlin public schools. The number of scholars to be inspected amounted to 227,750. Each school physician had on the average 5.170 children under observation. At the examination of children entering the school for the first time, 3,100, i. e., 8.7 per cent., were excluded from attendance on grounds of health. Of those which were admitted, 9.169, i. e., 25.8 per cent., were placed under medical supervision on account of defects in health. During the year covered by the report, about 36,000 children were under the supervision of the school physicians. The number of supervised children has grown, little by little, because the appreciation of the value of such a supervision has increased both among the teachers and among the parents of the children. Among the newcomers rejected, 1,140 were excluded on account of debility, 158 on account of scrofula, and 172 on account of tuberculosis of the lungs. The same grounds gave occasion for continued supervision of about 10,000 children. As a result of examination by the school physicians, a considerable number of children were placed on account of their insufficient intellect in so-called side classes (*Nebenklassen*), in which the requirements with reference to progress in learning are less exacting. In addition, those hard of hearing or with defective vision were discovered and separated by the investigations of the school physicians. During the year 30 children were discovered who had to be transferred to an idiot asylum on account of their mental condition.

The Sale of Medicines.

In Germany the pharmacists are not allowed to sell every remedy freely, i. e., without a physician's prescription. A large number of medicines are excluded from free sale, the so-called hand-to-hand sale (*Handverkauf*), especially the direct and indirect poisons. These medicines, in case they have been dispensed on a physician's prescription, must not be given a patient a second time unless the renewal is sanctioned by a notice written on the prescription by a physician. The number of such medicines which are excluded from the free traffic of pharmacists naturally increases from year to year as the dangerous character of the newly introduced remedies is established. Thus to mention only a few, lysol, which has been a favorite means of suicide and is still so used, veronal and a number of so-called headache medicines are especially reserved for physicians' prescriptions. An article by an apothecary in a late number of the *Pharmazeutische Zeitung* is directed against the decree regarding headache medicines. He complains that almost all the headache remedies are already withdrawn from free sale, and the income of the apothecary is considerably reduced thereby. According to his opinion, there has not been so far any injury to health by the sale of headache powders, and it is not to be assumed that the public is disposed to go to a physician immediately for a simple headache. Such a complaint raised essentially in the interests of the business success of the pharmacists can not be too energetically combated. Not the income of the apothecary, but the welfare of the sick, is what is most important, and it is doubtless an erroneous claim that no injuries to patients have occurred from the dispensing of such remedies. Surely more cases of poisoning by antipyrin and similar medicines have occurred than have become known through the newspapers or the authorities. In the article of the pharmacist referred to, the very much-to-be-regretted fact appears that our pharmacists (as is said to be also the case in England and America) consider themselves as belonging less to the forces organized for the curing of disease than to the business world, and place money-making above their duty of service for the protection of health and overcoming of disease. So much the more is it the duty of the authorities and especially of the government to supervise the business of the pharmacists, in order to prevent injury in this line. Moreover, it is well known that quackery is carried on to a not inconsiderable extent in German pharmacies, notwithstanding the fact that the pharmacists deny this.

VIENNA LETTER.

(From Our Regular Correspondent.)

Vienna, Dec. 2, 1908.

The Steinhof Lunatic Asylum.

The new Steinhof Lunatic Asylum, which is said to be the largest and best equipped institution of this kind in Europe—perhaps also in the world—has just published its report on the first year of its existence. It consists of fifty-nine separate pavilions, and can accommodate 3,000 inmates. Unlike most free public asylums, it has one division, the sanitarium, which is expected to be self-supporting, for it is intended only for paying patients of the upper classes. This innovation has been received with great satisfaction by the public. Hitherto the only existing asylums were those intended for the lower classes, or the very expensive private homes resorted to by the upper classes. The pavilion system enables an individualized treatment to be given, and the rule is to bring only patients with similar affections in contact with each other.

Careful attention has been given to treatment by occupation. Large plots of arable land, much household work, and many professional occupations are in the hands of the patients, who seem to be doing it very well, and with benefit to their condition also. The milking of the cows and the care of the numerous gardens are all handed over to patients; even the printing of necessary papers is done by the insane.

The medical staff is comparatively small, consisting of 11 physicians, while 450 persons are employed on the nursing staff, the administrative body and in the household. The maximum number of patients allotted to a nurse is 12. The minimum air space per patient is 1,060 cubic feet in the wards, but the mean air space is 1,940 cubic feet per bed. Each pavilion has its own garden, separated from the common park by walls or railings. Heating is accomplished in the wards either by low-pressure steam or by tile stoves; light within the buildings is given by electricity, outside by gas.

As the grounds cover more than half a square mile, an electric tram is provided for. Good drainage is insured by the situation along the gentle slopes of a hill. The ventilation and the pure fresh air in the wards account for the good condition of the patients in respect to the respiratory organs. In fact, no case of disease has occurred which could not be ascribed to the mental condition of the patients. A mortality of only 8.5 per cent. was observed this year; but it must be remembered that many patients now there are suffering from general paralysis and other fatal diseases, and these will no doubt soon swell the mortality rate. The cost of the whole institution was $4,000,000 ($1,500 per bed), while the cost of maintenance is 80 cents a day per patient, against 50 to 70 cents in the general hospitals. The expenses are defrayed partly by the general government, partly by the local government of Lower Austria.

American Surgery as It Appears to an Austrian Surgeon.

In the *Wiener klinische Wochenschrift* Dr. Clairmont, assistant to Professor Eiselsberg, gives his impressions of American medicine, which he obtained on a trip to America for study. He visited the leading surgeons of Rochester (Minn.), Chicago, Baltimore and Philadelphia; watched them during operations, and noted the factors which have contributed to make American surgery so great.

Naturally, Dr. Clairmont had to employ as a standard of comparison the Viennese conditions with which he was familiar. Thus, he finds the absence of a pavilion system, due to the high price of ground, not so bad as might have been expected. American hospitals, founded and maintained by private munificence, compare very favorably in respect to liberality of equipment and comfort with European hospitals, founded and maintained by the state. The absence of gardens is a disadvantage for which roof-gardens do not compensate. The various city ambulance systems are said not to be so well organized as the *Rettungsgesellschaft* in Vienna. On the other hand, Dr. Clairmont was struck by the method of admission of in-patients and out-patients, and by the splendid organization of the hospital management, which often includes even a printing establishment for the hospital publications. The operating theaters, the separation between septic and aseptic operating rooms and the preparatory rooms disappointed Dr. Clairmont somewhat; but he says that European surgeons have much to learn from Americans in regard to economy of material, assistants and the nursing staff. The question of the nursing staff is a burning one on the continent of Europe. While American nurses come from good homes, European nurses come from the lower walks of life.

Dr. Clairmont pronounces the asepsis of American surgeons to be as perfect as possible; he obtained a very good impression from the small number of instruments required, even by the most eminent surgeons; and he also appreciated much the use of sterile water during operations. Anesthesia, which in America is induced mostly by ether, is there one of the most highly developed branches of surgical art: the care, exactness and gradual procedure struck the visitor very much. Dr. Clairmont saw the operations of Halsted, Cushing, Deaver, Mayo, Brewer and other eminent surgeons. He says that, as regards technic and practice, American surgeons are undoubtedly in the front ranks of the profession of the whole world. The abdominal operations of the brothers Mayo, the cerebral operations of Cushing, and the latter's experiments on animals especially elicited Dr. Clairmont's genuine admiration. He paid great attention to the position of American surgeons with reference to appendicitis and diseases of the liver and gall bladder; the methods and leading ideas of the foremost surgeons in America coincide with those of Eiselsberg and his school. Prostatic surgery is much advanced in America. Carrel's methods of suture and transplantation of blood vessels made a lasting impression on the visitor. A visit to the new medical school in Boston concluded Dr. Clairmont's stay in America. He returned some time ago, full of admiration of the achievements attained in surgery within the last few decades.

Pharmacology

"GETWELL TABLETS."

How the Anti-Cori-Zine Chemical Company Extends Its Business.

Physicians who are financially interested in the exploitation of questionable proprietaries (and happily we believe there are very few of these) usually excuse their course on the grounds that their preparations are advertised in medical journals, therefore they must be ethical. This placebo to professional conscience deceives no one, neither does it excuse, but it permits of a definite answer to an unpleasant question. With a "patent medicine" it is different. No physician who wishes to retain his self-respect desires to become in any way identified with so disreputable a business. It is not to be wondered at, therefore, that when a "patent medicine" firm is desirous of selling stock in its concern it leaves physicians severely alone.

Some of these concerns evidently believe that the dental profession does not share the feelings of the physician on this subject. At least that would seem to be a justifiable conclusion after reading some "form" letters sent to dentists by a Chicago broker.

> "Being a dentist, you are far enough removed from the position of professional jealousy (maintained by physicians) to see the subject in its practical light and I take it that profits made from 'patent medicines' are just as attractive to you as from any other source. . . . ."
>
> "All of this is by way of presenting an opportunity of sharing in the profits of one of the biggest earners in the *proprietary* field yet discovered. This is the Getwell Tablets. . . . . This tablet has been in use for 15 years in St. Louis among the practicing physicians. . . . ."
>
> "A year ago a company was organized among the most prominent *men of St. Louis (a city that boasts more big fortunes made* from patent medicines than any other in America) called the Anti-Cori-Zine Chemical Company. . . . ."
>
> "A campaign was made in Chicago and $10.000 spent in advertising. The success was phenomenal."
>
> "You doubtless know of the tremendous success made by the Antikamnia people of St. Louis, which has made the originator *many times a millionaire, to say nothing of the profits it made for* dentists who took the first stock. . . . ."

Then follows a statement of the amount of stock that is to be sold and a glowing prognostication of the vast profits to be made. With this "form" letter is another, purporting to be from the Anti-Cori-Zine Chemical Company to the broker, giving information about the financial standing of the company and its personnel.

> "The officers of this company are H. W. Hartwell, president (a physician of 25 years' practice in this city). A. D. Hartwell, secretary and treasurer (manufacturer of paints and varnishes). Joseph Griesedieck, vice-president (manager National Brewers' Assn., St. Louis). E. R. Rombauer, L.L.D. . . . ."
>
> "Our tablets are made under contract with Sharp & Dohme of Baltimore, Md. They cost us 65 cents per 1.000 and after boxing and preparation for the market, bring us $13.40 per 1.000."
>
> "You are no doubt acquainted with the splendid profits made on patent and proprietary medicines of this kind, such as Orangeade, [Orangeine?], *Cascarets, Bromo-Seltzer,* Bromo-Quinine, Laxative Pepsin, etc. . . . ."
>
> ". . . . The biggest fortunes in St. Louis have been made on patent medicines.. . . . ."
>
> "Profits in this business are far out of the ordinary and 400 to 600 per cent. is only normal. . . . This is true of every patent medicine of this nature. . . . ."

There seems to be no particular reason why this new acquisition to the ranks of the "subtle poisons" *should not* be a financial success. It apparently fulfills all the essential requirements of "patent medicine" ethics: (1) It has been in use for years *among practicing physicians* (a stock falsehood in this line of business); (2) its company has for its officers an M.D., a paint maker, a brewer and an LL.D.; (3) it is put up "under contract" by an old-line "ethical" house; and (4) there is 400 per cent. profit in it. It would seem that under such auspicious circumstances nothing but gross mismanagement can prevent the Anti-Cori-Zine Company from scoring a big success, as have many St. Louis firms in the same business.

As to the tablets themselves, they vary in no way from their prototypes and are advertised with that classic disregard for truth that characterizes nostrums of all classes.

> "No drug habit is formed by the use of Getwell Tablets, even when taken for long successive periods."
>
> ". . . . even persons suffering from the severest forms of heart disease can take them without the least danger."
>
> "The average dose is 3 for a man . . . . robust patients may require 1 or 2 more . . . taken at once and repeated in an hour if the mucous *discharge is not stopped.*"

The virtues of this wonderful tablet are due to our old friend, acetanilid, aided and abetted by another drug that is *becoming increasingly* popular with nostrum mongers—codein. Of the former there are practically 2 grains to the tablet; of the latter, 1/20 grain; there is also a small amount of belladonna. A "robust patient" may take—according to instructions—five tablets as a "starter" and five more an hour later. After thus devouring nearly 20 grains of acetanilid, his robustness might be somewhat impaired, but as this is a business proposition paying 400 per cent., one can hardly expect the Anti-Cori-Zine Chemical Company to mention it.

But Getwell is not the original name of the tablet; its earlier name was Anti-Cori-Zine, and as such it was sold to physicians.

> "Anti-Cori-Zine is an ethical preparation advertised only to the medical profession."

Like many another acetanilid mixture before the Food and Drugs Act spoiled the game, Anti-Cori-Zine was advertised as a "synthetic."

> "Anti-Cori-Zine is not a mere mixture of various remedies holding a reputation as cold cures, *but it is a definite, synthetic chemical.*" [Italics are ours.—Ed.]

Presumably an enlightened medical profession combined with a federal statute has caused the "synthetic" falsehood to become *stale, flat* and unprofitable, and there is now more money to be made in advertising to the public direct rather than via medical journals and physicians.

The medical profession should at least be glad to learn from an outside source that the "position of professional jealousy (maintained by physicians)" prevents it from looking on the "profits made from patent medicines" as "just as attractive" as those made in a more respectable line of business. The case of Dr. H. W. Hartwell, a homeopathic physician of St. Louis, and president of the Anti-Cori-Zine Chemical Company, seems to indicate, however, that the "position of professional jealousy" is not universally maintained. Doubtless the broadening influence of a financial venture that pays 600 per cent. enables him to rise above such petty things as "professional jealousy."

Testimonials or Alleged Clinical Reports.

At different times we have discussed the value—or worthlessness—of testimonials. As evidence, *their scientific value is nil;* as psychic stimulants, they rank high. It is for the latter quality that they are sought by the "patent medicine" and "*ethical proprietary*" exploiters. *Testimonials to "patent medicines"* are always paid for in an indirect way, though this *fact is not given any undue prominence. It has remained* for an English quack concern to come into the open and offer a spot cash remuneration for letters which detail the virtues of their goods. This is done by the "Dr." Gardner's Remedies, Ltd., of London, who advertise in the British press:

> "One Guinea each paid for every *bonâ fide* testimonial
> that is printed or used in any way as an advertisement, and
>
> *ONE HUNDRED POUNDS CASH*
>
> for the best testimonial received
> on or before December 1 next."

London *Truth*, a lay weekly that is aggressively exposing "patent medicine" frauds and quacks, says: "Any one who comes across in the newspapers, after this, surprising personal evidence of the miraculous effects of 'Dr. Gardner's Pink Tablets' or any other specific sold at the same shop will have no difficulty in accounting for the milk in the coconut."

To the initiated, the source of the milk has always been fairly evident, but it will be interesting to see whether the psychic—and only—value of the testimonial will be in any way weakened when the secret of its birth is a matter of public knowledge.

In the proprietary world a recent letter from the Manola Company to physicians shows a similar method of procuring testimonials. Not, of course, that they are called *testimonials*

—that would be too suggestive—no, "clinical reports" if you please, or "clinical data." Neither does the company offer to pay cash for such testimonials—that is to say "clinical data" —nothing so useful as money. Says the Manola Company:

> "We are now preparing a book containing clinical reports."
>
> ". . . we would like to have whatever clinical data you can give us in regard to your experience with Manola, even if it only covers one case."
>
> "As a token of our appreciation of such a report we will send you three full-sized bottles of Manola, express prepaid, for your personal use."

In the future, "personal evidence of the miraculous effects" of Manola will—at least to the initiated—at once conjure to one's mental vision three bottles of Manola! Isn't this pretty cheap? Those addicted to the testimonial habit have, therefore, three schedules: Lehn & Fink's,[1] $10.00 a page; the Manola Company, 3 bottles a report; and "Dr." Gardner's, from 1 guinea to 100 pounds. ($5.00 to $500.00) a testimonial. From a purely business standpoint, it would appear that the out-and-out "patent medicine" firm offers the highest inducements.

The Manola people are evidently profiting by past experience. They it was who conceived the idea[2] of getting the physician to act as a peddler for Manola, and at the same time force the druggist to fill up his shelves with their stuff. The price for this service also, was—three bottles!

Will the time ever come when the medical profession will administer such a rebuke to firms of this type that fear of commercial annihilation will compel in them that regard for decency which less drastic methods seem unable to effect?

Emanosal and Radium.

When the remarkable properties of radium were discovered, the "patent medicine" ranks were soon swelled by a number of "radium cures." Then came the Food and Drugs Act, which interfered with the quack's "personal liberty" to the extent of insisting that he must not tell a barefaced lie on the label. This made "radium cures" flat, stale and unprofitable, and the proprietors thereof either dropped the "patent medicine" business for a more respectable one or perhaps turned their talents toward headache powders or eye lotions.

Meanwhile radium and other radioactive substances were being studied scientifically and a large amount of data accumulated. It was found, for instance, that water can be charged with radium emanations. As a corollary some one formulated the brilliant theory that possibly the therapeutic value of certain springs is due to their impregnation with radium emanations. The fact that water soon loses its radioactive properties was made to explain why the water of these same springs ceases to have any medicinal virtue when transported.

It is now claimed that the emanations can be made portable by combining them with certain salts. These salts when dissolved in water artificially radioactivate that fluid which, as a therapeutic (?) agent, can be used either internally or externally. Even had these radioactivated salts any therapeutic value, their use in the form of tablets for producing radioactive solutions, however attractive as a method of medication, is one that is open to serious objections. Such tablets deteriorate rapidly, even when honestly made. To the unscrupulous maker, their manufacture offers a wide field for sophistication, as it is not an easy matter to determine their radioactivity.

To ascertain the character of certain preparations on the market, Professor Herbert N. McCoy, of the University of Chicago, an authority on the subject of radioactivity, on our request, made an examination of two kinds of tablets. Of the first he reports: "They are faintly radioactive as compared with uranium. They consist essentially of common salt and powdered pitchblende. After dissolving the former in water, there was left a black insoluble residue of rather coarsely powdered pitchblende (a mineral essentially U_3O_8, which always contains a small proportion of radium). Each tablet contains 0.18 gm. (3 grains) of pitchblende worth 1/10 of a cent."

The second sample of tablets was from a reliable manufacturer, Farbwerke vorm. Meister Lucius & Brüning. This firm aserts that its preparation, "Emanosal," contains the radium emanation in an absolutely permanent form. According to Laqueur, these tablets when fresh, equal 8,000 units of radioactivity, though Nagelschmidt has found them to vary between 2,000 and 5,000 units. Professor McCoy reports that these tablets were completely soluble in water and consisted largely, or wholly, of salt and sodium carbonate. They were faintly radioactive and about 1.5 per cent. as active as an equal weight of pitchblende. Each tablet has an activity equal to that of $6x10^{-8}$ gm. of radium. To put it another way: If radium is worth $2,325,000 an ounce ($75 a milligram) each tablet contains about ½ of a cent's worth of radium. They sell for fifty cents each.

It is surprising that enterprising quacks have not put on the market similar tablets. They could still tell the truth on the label and at the same time make a comfortable profit.

Correspondence

Bovine Necropsy as Object Lesson on Importance of Tuberculin Diagnosis of Tuberculosis.

MARSHALLTOWN, IOWA, Dec. 5, 1908.

To the Editor:—In response to your request for information and description of a demonstration on a cow affected with tuberculosis, which took place in our city last February, I am pleased to give the following particulars:

I have been much impressed by statistics showing the prevalence of tuberculosis among the farming classes. In corresponding with the bureaus of animal industry of the experimental stations of our own and other agricultural states of the middle west, I also noticed the increase and widespreading prevalence of tuberculosis among cattle and hogs. This induced me to study the relations between bovine and human tuberculosis. For instance, in the statistics of tuberculosis of the Board of Control of State Institutions for 1906, out of 5,469 cases reported—which does not mean complete statistics of the state—the housewives head the list with 1,101 cases; next come the farmers, 657 cases; farmers' wives, 100 cases; sons and daughters, 83 cases—a total from rural life of 840 cases. These latter cases far outnumber those of any single occupation other than that of housewife or of several other occupations together. Why should tuberculosis be so prevalent in country life? The more I study statistical reports on tuberculosis, the more I am convinced that bovine tuberculosis is a great factor in the wide prevalence of tuberculosis in the human race. Therefore, I have become an ardent advocate of the elimination of bovine as well as human tuberculosis.

In August, 1907, being a member of the city council and local board of health, I introduced an ordinance, which was passed, providing that "whosoever within the corporate limits of the City of Marshalltown, Iowa, shall offer for sale milk or products of milk—cream or butter—shall first procure a license, previous to the granting of which he shall state in writing the number of cows, his place of residence, and whether he procures milk from other source than his own dairy"; and that "the mayor shall appoint a veterinarian in good standing with the State Board of Health, who shall immediately proceed to test all cows or other cattle on premises, unless wholly isolated from milk cows, with what is known as the tuberculin test for tuberculosis."

This, of course, seemed to the owners of milk cows a radical measure, and a storm of protests arose. The dairymen organized, secured legal advice, and threatened suits. I sought to allay prejudice by argument, and suggested to the veterinarian and mayor, who were heartily in support of the measure, that it would be useful to explain to the public the lesions of tuberculosis in animal tissues by slaughtering and exposing the carcass of a cow which by previous tuberculin test had been shown to be affected with tuberculosis. Thus many might be convinced that the use of milk, cream or butter from a cow sick with tuberculosis—or any other disease, for that matter—was dangerous to the health and should be prohibited. The announcement of the test and demonstration created much interest. The occasion was auspicious, as a short course in grain and stock judging and domestic science was being given for farmers under the auspices of the Iowa State Agricultural College.

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[1] THE JOURNAL, Feb. 29, 1908.

[2] THE JOURNAL, May 6, 1905.

The cow on which the demonstration was to be made had been condemned a few days previously by the city inspector, after showing a decided reaction from the tuberculin test. The animal's appetite had been good, and it had been furnishing milk for one of the regular routes of the city. In appearance its physical condition did not indicate disease, especially tuberculosis, as pictured in the minds of most people. The hair was smooth and the submaxillary and superficial glands were not enlarged. When the abdominal cavity was opened a good supply of fat was noticed. There was no enlargement of mesenteric glands, but the liver presented an irregular surface and was the seat of several tuberculous areas of compact nodules, yellowish-gray in appearance. One especially large deep-seated mass of tubercles was bisected and revealed that dense characteristic change in tissue formation of the tuberculous nodule; the central portion had become caseous, and before long, disintegration would have taken place. The spleen also was the seat of numerous small tubercles the size of a split pea and somewhat larger, hard and uneven to the touch, with the same characteristic appearance as those of the liver. The lung tissue was somewhat pale in appearance and there was tuberculous infiltration in the middle and upper lobes of the right lung. Numerous large and small grayish tubercles seemingly blocked air spaces. Many of these on cross section had a caseous appearance. One large cheesy mass, three inches in diameter, circumscribed by thin walls, was found in a state of softening, almost to liquefaction and cavity formation, near the posterior and upper portion of middle right lobe. These gross lesions were readily seen without a microscope. There were numerous other lesions in various stages; the deep glands on the posterior surface of the pleural cavity were enlarged. The glands of the udder were not enlarged or affected, as determined without section. Dr. J. H. McNeil, head of the division of veterinary medicine of Iowa State Agricultural College, gave an interesting lecture on bovine tuberculosis, the method of obtaining tuberculin, its harmlessness, and its great value as a diagnostic remedy in tuberculosis. A profound impression was made and the dairymen who had previously organized to fight the ordinance requiring the tuberculin test ceased their opposition and gave their assistance to the city council in its efforts to secure enforcement of these necessary precautions. The news of the demonstration, we believe, has gone far and created much interest in outside communities, as frequent requests for information from cattle men and city councils are received.

W. S. Devine.

Bound Volumes of The Journal—A Proposition on Which Comments Are Desired.

Montecito, Calif., Dec. 2, 1908.

To the Editor:—I have a proposition for the consideration of The Journal, and incidentally for criticism by members of the Association. The Journal is naturally that medium which first brings to the notice of the bulk of the profession anything that is new in the science of medicine. We read the results of investigations first as news and later, as we wish to apply them in our own practice, we look up the back numbers of The Journal to refresh our memory. It seems to me that this reference feature of the paper has never been adequately emphasized and exploited, as compared with its other function of new-giving. I am of the opinion that on reflection most members will admit that the former is as important as—is, in fact, the complement of—the other.

The man who is throwing aside his copies of The Journal after the first perusal is getting but a tithe of that for which he is paying, that which is rightly his. The news items, the latest discoveries in various lines of research, pass weekly through our cerebral clearing-house and are there sorted into their respective pigeon holes, forgotten or remembered as they appeal to the interest uppermost in each of us. We can remember the general drift of an epoch-making discovery, but the details, that painstaking attention to minutiæ which is the inevitable requisite condition of success, are too elusive for human memory.

The text-books, at best, give us a bare historical account of results attained, summed up dispassionately long after the fight. Our weekly Journal, on the other hand, shows the battle in detail as by vivid pen-pictures of a war correspondent; obstacles and difficulties, now appearing insuperable, now yielding before well-directed onslaught. There is as much difference between reading in the morning newspaper the bare score of a championship university football game and seeing from the bleachers the actual contest itself. All matters relating to medical progress the bound volume of The Journal offers in graphic chronologic sequence, months, often years, before any text-book on the subject is published.

Why, then, do we not bind our Journals? For most of us this binding proposition has been something of a nightmare, and we can scarcely be blamed if many of us have shirked it altogether, or (paving a certain road with good intentions) have put it off from year to year. To the successful busy practitioner the semi-annual hunt for the two or three copies mysteriously but inevitably missing—the search for a local bindery (it is incredible how scarce good binders seem), the transportation of The Journals to and fro, the explanations, the cost in money and (what matters more) in time, and last, but not least, the futile effort to have the product of this year look like a creation of at least the same generic species as the abortion the peripatetic binder turned out for us a six-month ago, all these are small worries which surely one is justified in evading, even perhaps at the cost of a ready reference library.

Now, why can not the management of The Journal take this load off our shoulders (and our consciences)? It is in a position to do it for us far better than we can do it for ourselves, and incidentally save us all further thought in the matter. The few extra dollars with the annual subscription will never be felt.

Figure it out as a business proposition, from the point of view of the doctor. Put on one side the trifling additional cost a mere bagatelle to any of us—and the few strokes of the pen requisite in making out a check for a larger amount. On the other side, put the time wasted, as just pictured, which could be profitably spent in our practice or our recreation. There are few of us to whom time is not the most valuable commodity we possess; yet the time is the smallest part of it. There is the mental effort, the knowledge in our subconsciousness that in a few months or weeks we ought to be tackling that pile of dusty journals disarranged by many hunts for So-and-So's article about the treatment for such-and-such. This is an age of specialism; in nothing more so than in medicine. Yet we have allowed others to take the lead of us in this direction. This idea of mine is not mine at all. Like Kipling's Homer:

> "And what 'e thought 'e might require,
> 'E went and took—the same as me!"

I just stole it. For years it has been the custom of certain magazines, particularly the foremost yachting paper, the *Rudder*, to offer at the end of one year the bound volume, with the subscription for the forthcoming year at an inclusive rate. In the instance mentioned the plan has worked admirably; so why should not The Journal of the American Medical Association make us a similar proposition?

As to the price, $12 has been suggested for the current subscription and the two half-yearly bound volumes—$3 being the regular price for binding the two volumes. Why not make it $13, making use of the low prepaid book rate, shipping the completed volumes, express paid, to the subscribers? It seems to me that this can not fail to appeal to the majority of the members of the Association. When the blanks are sent out for subscriptions, why not have a separate line which allows one to subscribe $13 instead of the old-time $5 for The Journal for 1909 and the two bound volumes for the same year when completed, delivered, express prepaid?

Julius H. Hurst.

[Comment.—The Journal will be pleased to have an expression of opinion from its readers as to this proposition. A postal card will suffice.—Ed.]

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

County Secretaries Meet in Michigan.

In the *Journal of the Michigan State Medical Society* for November appear the proceedings of the first annual meeting of the Association of County Secretaries of the Michigan State Medical Society, held at Detroit, Sept. 30, 1908. Thirty-six county and state officers devoted the afternoon and evening to a discussion of the practical problems of medical organization, seven papers being read and discussed.

Dr. A. E. Bulson, Jackson, Councilor for the Second District, spoke on "Medical Organization, What It Has and Should Mean in Michigan." The history of medical organization in Michigan was reviewed and present conditions contrasted with those which existed prior to reorganization. Dr. Bulson also discussed medical legislation, the value of postgraduate work, the importance of medical students receiving instructions in medical ethics and the possibilities of improvement in medical society work in the future.

Dr. C. S. Oakman of Detroit spoke on the scientific work of county societies, emphasizing the importance of attractive programs and advising that the program be made out for an entire season in advance: that "text-book papers" be avoided and that papers be illustrated wherever possible. Symposiums were regarded as of value whenever the subject is broad enough to warrant them. The value of frequent notices and of printed programs for meetings was also emphasized.

Speaking on the "Social Features of the County Program," Dr. C. D. Morris of Pontiac related the experience of his own county society in supplying the social needs of its members. An extended discussion followed, various secretaries present relating their experiences.

An excellent paper on "The Business Side of the Secretary's Work" was read by Dr. A. S. Kimball, Battle Creek. Some of his conclusions should be considered by every county secretary. Briefly summarized, they were: Keep the society's business independent of your own business affairs. Maintain a separate account for each member as well as a separate cash account showing all collections and expenditures. Before the annual meeting have each account posted to date and dues for the new year entered so that members can pay at once and receive proper credit. The nightmare of the secretary's official existence is the collection of dues. Persistency and tact are two qualities absolutely essential for the successful county secretary. It is as tiresome to hammer a physician for his dues as it is to dun a patient for the payment of services long since rendered. Never draw a cent out of the society's account save by check, so that your returned vouchers will check up with your final account. If the county secretary fails to report a member in good standing, he will probably be placed under the ban by the state secretary. While county secretaries have their troubles in keeping local members in line, the state secretary has his, greatly multiplied. In order to do justice to all, the county secretary should, immediately on the receipt of the member's dues, remit them to the state secretary. With close application and systematic methods, many of the petty embarrassments and unpleasant features of the county secretary's work would disappear.

County secretaries are middlemen, buffers alike for state secretary and member. Prompt, businesslike dealings with both will make their position far more pleasant. "We, as secretaries, must then, first of all, inaugurate system into our whole work; promptness both in our dealings with the state society and local members; maintain, or if necessary, cultivate patience, persistency and diplomacy in our dealings with our fellow-members, and practice the strictest economy in our dealings with others for the good of our society bank account; and, finally, account in a clear and concise way for our year's work at the annual meeting." The protracted discussion which followed Dr. Kimball's paper showed that questions relating to the business management of the society were regarded as vital to the progress of the organization.

Dr. J. C. Johnson, Lenawee, spoke on "New Members and Attendance," emphasizing the importance of personal invitations to each non-member and especially to those who have recently located in the county.

Dr. C. S. Cope, Ionia, under the title "What Can be Accomplished by Hustling," reviewed previous experience in medical organization in his county, and related the methods used in interesting the physicians in medical organization during and after the reorganization period. Letters were sent to every physician in the county who could not be reached by personal visitation. A few lines calling attention to the coming meeting and inviting attendance and cooperation were repeated from time to time. A tasteful, inviting program was printed for each meeting and a copy sent to each member, efforts being made to have each program contain some unique and attractive feature. Special efforts are also made to have the meetings bright, attractive, and as short as is consistent with thoroughness. Long drawn-out discussions and stilted parliamentary sittings are avoided. Frequent banquets and luncheons are held, the physicians of the town in which the society meets generally acting as hosts. On the secretary falls the burden of originating and carrying out plans that will attract and hold the members, and unless he is self-sacrificing and willing to do all the work, he had best not accept the office, for without these necessary qualifications, he will be a failure. "The man to whom the county medical society most appeals and whom it is designed to benefit is the county doctor. . . . It is to reach him, to bring forth the best that is in him . . . . that the society and the secretary must bend every effort. This is no boy's play. It will weary you, tax your ingenuity to the utmost, but you will reap a glorious harvest if you are faithful to the trust given you."

At the dinner given in the evening, an especially valuable paper was read by Dr. B. R. Schenck, the state secretary. Dr. Schenck took as his subject "The Michigan State Medical Society—What, When, Where, Why, and How It Is," the object being to explain to the county secretaries of the state the exact relation existing between the county and state societies and the national Association; what constitutes membership and why certain methods were necessary. Considering what the state society is, Dr. Schenck said: "The center of the communal life of physicians is the county society. It is to the local organization that the individual physician owes his first allegiance. If the local organizations are supported and built up into what they are capable of becoming, there may be no fears as to the prosperity of the state or national organizations. The state association is but the aggregate of the county societies' activities. It is the sum total of effort and achievement, as manifested in the local organizations. The influence of the state society is great, but compare its influence with that vast influence which is exerted by our fifty-five active county societies, meeting weekly, bi-weekly, monthly or quarterly. There are scheduled for the counties of this state during the coming year, 392 different meetings with an attendance which I have very conservatively estimated at 7,250. The state society is the aggregate—it is the great centripetal force that binds these 55 units together, keeping them working in harmony, supplying ideas and new motives. . . . It is the conception of the state society as merely a body of men which meets yearly for a two days' session of scientific and social intercourse and lying dormant between whiles, which I wish to combat. Our state society exists every day in the year in our county societies."

Considering the question why the state society exists, Dr. Schenck quoted from the constitution of the state society and showed that out of 4,200 physicians in the state, there were 1,975 paid members, being 47 per cent. of the physicians of the state, or about 63 per cent. of those eligible to membership. The objects of the state society are to extend medical knowledge and advance medical science; to elevate the standard of medical education; to guard the material interests of the physicians of the state and to enlighten and direct public opinion on great problems of state medicine. While these purposes are being partially carried out, opportunities are being wasted, which, if grasped, would show the profession becoming more capable and honorable within itself and more useful to the public in the prevention and cure of disease and in prolonging and adding comfort to life.

Under the heading, "How the State Society Is," Dr. Schenck discussed in detail the points of contact between his work and that of the various county secretaries, enumerating the methods used for regulating membership and showing how necessary it is for the successful working of the organization that every official should do his part promptly and accurately. A critical discussion of the state journal closed this most valuable paper.

The above synopsis is given, not only because many of the ideas brought out by the speakers were of great practical value, but also in the hope of encouraging other state secretaries to provide for annual meetings of the secretaries of county societies and the general officers of the state association. As our organization grows and as our various lines of work become more and more complicated, the necessity for accurate, prompt and effective cooperation between the different parts becomes more apparent. A single inefficient, careless or delinquent executive officer in any part of the organization can cause much unnecessary work and vitiate the results of the good work which is done by others. It is imperative that the clearest understanding and the closest cooperation should exist between the state society and the various county societies; that the county secretary should understand clearly why certain things are expected of them and how these things can best be done. In no way can this be so readily accomplished as by conferences held at least annually and, preferably, semi-annually. Already, a number of our states, notably, Pennsylvania, Ohio, Iowa and Illinois, have held such conferences. It is to be hoped that their example will be followed by other states until these meetings will become an established part of our yearly work.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
Bowling Green, Kentucky.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Fifth Month—Second Weekly Meeting.

DISEASES OF PENIS.

Phimosis.—Congenital, acquired. Indications for circumcision. Technic. Complications.

Paraphimosis.—Causes. Treatment, reduction, incision.

Wounds of Penis.—Contused, incised, lacerated. Dangers, hemorrhage, injury of urethra, infection.

Fracture of Penis.—Causes, prognosis, treatment.

Inflammations.—Acute and chronic, causes, prognosis.

Balanitis and Balanoposthitis.—Diagnosis, treatment.

Herpes Progenitalis.—Causes, diagnosis, differentiation.

Tumors of Penis.—(a) Verrucæ or papillomata; pathology, causes, diagnosis. (b) Epithelioma; symptoms, diagnosis, extension, treatment. Technic of partial amputation, of complete amputation.

DISEASES OF THE URETHRA.

Hypospadia.—Balanic, penile, perineal; defects associated with each. Indications for treatment.

Epispadia.—Associated malformations. Treatment.

Wounds of Urethra.—Surgical or accidental. Incised, lacerated, contused, punctured. Complications, treatment.

Rupture of Urethra.—Causes in (a) penile, (b) perineal portion. Partial or complete. Symptoms, hemorrhage, tumor formation, pain, retention of urine. Complications, hemorrhage, retention and extravasation of urine, false passages, sloughing, fistula, stricture. Treatment: palliative, operative, posterior or retrograde catheterization.

Foreign Bodies and Calculi.—Diagnosis, treatment.

Urethritis (Non-venereal).—Predisposing causes: (a) Diathetic conditions, (b) chronic urethral disease, (c) morbid states of urine, (d) sexual abuses, (e) dietetic excesses, (f) alcoholism. Exciting causes: (a) Trauma, (b) bacteria (non-specific), (c) toxins, (d) chemical irritation, (e) sexual strain.

Fifth Month—Third Weekly Meeting.

DISEASES OF THE BLADDER.

Exstrophy.—Cause, associated defects, associated pathology. Treatment, palliative, operative.

Hypertrophy and Atrophy.—Causes, diagnosis, prognosis.

Wounds of Bladder.—Contused and lacerated, gunshot. Intraperitoneal, extraperitoneal. Symptoms: Urine in wound, straining urination with blood or bloody urine, probe into bladder or urethral sound out through wound, shock. Complication: Hemorrhage, peritonitis, cellulitis, fistula.

Rupture of Bladder.—Causes: (a) Predisposing, distention, alcoholism, adhesions from cellulitis, chronic cystitis. (b) Exciting, fractures, muscular strain, fall on ischium, acute retention, injections. Pathologic rupture. Intraperitoneal and extraperitoneal rupture. Symptoms: General and local, physical signs. Treatment, after-treatment.

Cystitis.—Etiology: Predisposing, congestion of bladder due to (a) retention, (b) trauma, (c) abnormal muscular contractions, (d) abnormal urine, (e) tumors and calculi, (f) cold, (g) sexual excesses, (h) cardio-vascular disease, (i) cerebrospinal lesions. Exciting cause, local infection, extension, organisms found. Pathology: (a) Catarrhal, (b) interstitial, (c) membranous, (d) gangrenous.

Tuberculosis, Calculi and Tumors of Bladder.

Tuberculosis.—Infection (Koch): 1. Bacilli in body; (a) through blood current, (b) by lymph channels, (c) excretion of bacilli, with or without nephritis. 2. Bacilli from without: (a) by cohabitation, (b) by catheterism. Pathology: Pericystitis, changes in wall, mucous membrane. Symptoms: Onset, hematuria, pyuria, pain, general symptoms. Microscopic examination of urine, cystoscopy.

Vesical Calculi.—Varieties: Uric and uratic, phosphatic, calcium oxalate and carbonate, cystin. Etiology: Age, sex, drinking water, geographic distribution. Symptoms: Frequent urination, pain, hematuria, reflex disturbances. Treatment: Preliminary, litholapaxy, lithotomy, perineal and suprapubic.

Tumors.—Classification and etiology: (a) Benign, papilloma, adenoma, fibroma, myxoma, cysts; (b) malignant, carci- cystoscopic appearance, in each. Symptoms: Hemor- noma, sarcoma, mixed tumors; frequency, site, number, attachment, infiltration, lymphatic involvement, age, sex, rhage, pain, frequent urination, fragments of tumor.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Dec. 12, 1908:

Kulp, John S., maj., retired from active service on account of disability, Dec. 4, 1908.

Truby, A. E., maj., detailed member of examining board at San Francisco, vice Col. G. H. Torney, relieved.

Kiersted, H. S., capt., granted leave of absence for one month, about Dec. 15, 1908, with permission to apply for an extension of 15 days.

Kendall, W. P., major, granted leave of absence for 10 days.

Worthington, J. A., lieut., assigned to duty on transport *Thomas*, instead of transport *Crook*.

Pinkston, O. W., lieut., when services are no longer needed on transport *Crook*, ordered to Hot Springs, Ark., for duty at the Army and Navy General Hospital.

Nichols, H. J., lieut., granted leave of absence for two months, on arrival in United States.

Lewis, W. F., maj., relieved from duty at Ft. Sill, Okla., and ordered to Ft. Thomas, Ky., for duty.

Pierson, R. H., capt., ordered from Ft. Niagara, N. Y., to Ft. H. G. Wright, N. Y., for temporary duty.

Byrne, C. B., col., ordered to report before Army retiring board at Washington, for examination.

Mount, J. R., M. R. C., leave of absence revoked.

Sparrenberger, F. H., M. R. C., relieved from duty at Ft. Washakie, Wyo., and ordered to Ft. Warren, Mass., for duty.

Brewer, I. W., M. R. C., when relieved from duty at Ft. Warren, Mass., ordered to San Francisco, and thence to sail for service in the Philippine Islands.

Johnson, C. W., M. R. C., ordered from Ft. Des Moines, Ia., to Ft. Meade, S. D., for temporary duty.

Smith, R. D., M. R. C., relieved from further duty in the Philippines Division.

Stallman, G. E., dent. surg., left Ft. Logan H. Roots, Ark., for duty at Ft. Sill, Okla.

Whinnery, J. C., dent. surg., left Ft. Case, Wash., for duty at Ft. Ward, Wash.

Tignor, E. P., dent. surg., left Governor's Island, N. Y., for duty at Ft. Howard, Md.

Ratliff, L. H., cont.-surg., contract annulled Nov. 26, 1908.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Dec. 12, 1908:

Carpenter, D. N., surgeon, ordered to the Naval Academy.

Warner, R. A., P. A. surgeon, detached from the Naval Academy and ordered to duty at the naval hospital, Norfolk, Va.

Eytinge, E. O. J., asst.-surgeon, detached from the *Ranger*, when placed out of commission, and to duty at the naval hospital, New York.

Geiger, A. J., P. A. surgeon, detached from the naval station, Guam, L. I., and ordered to the *Supply*.

Casto, D. H., asst.-surgeon, detached from the *Supply* and ordered to continue duty at the naval station, Guam, L. I.

Thomas, G. E., acting asst.-surgeon, appointed acting assistant surgeon from Dec. 3, 1908.

Munson, F. M., P. A. surgeon, ordered to the *Monadnock* and *Monterey* when discharged from treatment at the naval hospital, Canacao, P. I.

Downey, J. O., asst.-surgeon, detached from the *Relief* and ordered to the *Charleston*.

Public Health and Marine-Hospital Service.

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended Dec. 9, 1908:

Blue, Rupert, P. A. surgeon, granted 4 days' leave leave of absence from Dec. 9, 1908.

Billings, W. C., P. A. surgeon, Bureau orders of Nov. 28, 1908, amended and directed to report to the superintendent of the Revenue Cutter Service School of Instruction, Dec. 2, 1908.

Goldberger, Joseh, P. A. surgeon, granted 1 day's leave of absence, Dec. 3, 1908, under paragraph 191, Service Regulations.

Sweet, E. A., P. A. surgeon, granted 1 month's leave of absence from Nov. 25, 1908, on account of sickness.

Sweet, E. A., P. A. surgeon, relieved from further duty at San Diego, Cal., on arrival of Surgeon Paul M. Carrington, Dec. 2, 1908.

Hurley, J. R., asst.-surgeon, granted 10 days' leave of absence from Dec. 6, 1908.

Kastle, Joseph H., Chief Division of Chemistry, Hygienic Laboratory, detailed to represent the Service at the annual meetings of the American Physiological Society and the American Society of Biological Chemists to be held at Baltimore, Md., Dec. 28, 1908, to Jan. 2, 1909. Dec. 4, 1908.

Bowie, Robert I., sanitary inspector, granted 6 months' leave of absence from Feb. 1, 1909, without pay.

Branham, H. M., acting asst.-surgeon, granted 4 days' leave of absence from Nov. 10, 1908.

Foster, S. B., acting asst.-surgeon, granted 23 days' leave of absence from Dec. 6, 1908.

Gibson, L. P., acting asst.-surgeon, granted 5 days' leave of absence from Dec. 2, 1908.

Hallett, E. B., acting asst.-surgeon, granted 2 days' leave of absence from Dec. 9, 1908.

Light, S. D. W., acting asst.-surgeon, leave of absence, granted Nov. 18, 1908, for 22 days from Nov. 17, 1908, amended to read 30 days from Nov. 18, 1908. Dec. 4, 1908.

Nute, A. J., acting asst.-surgeon, granted 14 days' leave of absence from Dec. 16, 1908.

Tappan, J. W., acting asst.-surgeon, granted 10 days' leave of absence en route to station. Dec. 5, 1908.

Wilson, J. G., acting asst.-surgeon, granted 3 days' leave of absence from Dec. 6, 1908, under pargraph 210, Service Regulations.

BOARD CONVENED.

Board of medical officers convened to meet at the Marine-Hospital in Baltimore, Md., Dec. 7, 1908, for the purpose of conducting a physicial examination of a cadet of the U. S. R. C. S. Detail for the board: Surgeon W. P. McIntosh, chairman; P. A. Surgeon W. C. Billings; and P. A. Surgeon J. W. Schereschewsky, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Dec. 11, 1908:

SMALLPOX—UNITED STATES.

California: San Francisco, Nov. 15-21, 3 cases.
Illinois: Springfield, Nov.27-Dec. 3, 1 case.
Indiana: Lafayette, Nov. 15 30, 6 cases.
Kansas: Topeka, Nov. 22-28, 13 cases.
Kentucky: Covington, Nov. 22-28, 13 cases.
Maine: Saint David, Nov. 22-28, 1 case.
Michigan: Grand Rapids, Nov. 15-21, 1 case; Saginaw, Nov. 22-28, 3 cases.
Montana: Butte, Nov. 4-17, 7 cases.
Ohio: Cincinnati, Nov. 21-27, 1 case.
Texas: San Antonio, Nov. 22-28, 2 cases.
Vermont: Bellows Falls, Dec. 4, 1 case; Brattleboro, Nov. 1-Dec. 4, 60 cases; Dummerston, 2 cases; East Dover, 22 cases; Putney, Dec. 4, 1 case; South Londonberry, Nov. 1-Dec. 4, 2 cases; West Charleston, Dec. 4, 1 case.
Wisconsin: LaCrosse, Nov. 22-28, 5 cases; Manitowoc, Nov. 15-21, 25 cases; Milwaukee, 3 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, Oct. 18-24, 5 cases, 2 deaths.

SMALLPOX—FOREIGN.

Arabia: Aden, Nov. 2-9, 2 deaths.
Brazil: Para, Oct. 25-Nov. 7, 2 cases, 1 death; Rio de Janeiro, Oct. 19-25, 411 cases, 190 deaths; Santos, Oct. 5-18, 17 cases, 5 deaths.
Canada: Charon Brook, Nov. 22-28, 1 case; Edmunston, 5 cases; Halifax, Nov. 15-21, 1 case; Kingston, 40 cases; St. Anne Quisibis, Nov. 22-28, 1 case; St. Basil, 4 cases.
Egypt: Cairo, Oct. 15-21, 5 cases.
France: Paris, Nov. 8-14, 3 cases.
India: Bombay, Oct. 27-Nov. 3, 1 death; Calcutta, Oct. 11-17, 2 deaths.
Italy: General, Nov. 8-15, 34 cases; Genoa, Oct.1-31, 7 cases; Naples, Nov. 8-15, 18 cases, 1 death.
Java: Batavia, Oct. 11-24, 4 cases.
Mexico: Mexico City, Oct. 4-17, 6 deaths.
Norway: Christiania, Nov. 1-7, 1 case.
Russia: Moscow, Oct. 18-Nov. 14, 55 cases, 25 deaths; Riga, Nov. 8-14, 2 cases; St. Petersburg, Oct. 21-27, 8 cases; Warsaw, Oct. 18-21, 12 deaths.
Spain: Barcelona, Nov. 11-21, 29 deaths; Seville, Oct. 1-31, 1 death; Valencia, Nov. 1-14, 5 cases; Vigo, Nov. 1-7, 1 death.
Turkey: Constantinople, Nov. 9-15, 5 deaths.
Zanzibar: Zanzibar, Oct. 24-30, 1 death.

CHOLERA—INSULAR.

Philippine Islands: Manila, Oct. 10-24, 95 cases, 44 deaths; Provinces, Oct. 10-24, 1,534 cases, 864 deaths.
India: Calcutta, Oct. 11-17, 17 deaths; Madras, Oct. 23-30, 4 deaths.
Russia: General, to Oct. 25, 25,509 cases, 11,962 deaths; St. Petersburg, Oct. 26-Nov. 1, 19 cases, 22 deaths; Riga, Nov. 8-14, 2 deaths.
Straits Settlements: Singapore, Nov. 25-31, 2 deaths.

YELLOW FEVER.

Brazil: Manaos, Oct. 25-31, 1 death; Para, Oct. 25-Nov. 7, 5 cases, 5 deaths.
Ecuador: Guayaquil, Oct. 24-31, 1 death.
Mexico: Mexcanu, Oct. 14-21, 1 case; Merida, Nov. 15-21, 1 case.
Martinique: Fort de France, Nov. 1-7, 1 case, 1 death.

PLAGUE.

Brazil: Rio de Janeiro, Oct. 19-25, 8 cases, 6 deaths.
China: Tongshan and vicinity, Aug. 20-Oct. 17, 20 cases, 12 deaths; Oct. 31, still present.
Venezuela: Caracas, Oct. 7, 1 case.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

CHOLESTERIN IN PERNICIOUS ANEMIA.

LEAVENWORTH, KAN., Nov. 30, 1908.

To the Editor:—In an editorial, November 21, THE JOURNAL mentioned the use of cholesterin in the treatment of pernicious anemia. I am much interested but am unable to obtain the cholesterin and should like to know of a process by which I might be able to obtain the same from the bile.

CHARLES J. MCGEE, M.D.

ANSWER.—The most common source of cholesterin is cholesterin gallstones. The following is one method of obtaining it. The concretions are finely pulverized and extracted with boiling water and then with boiling alcohol. From the alcoholic extract the cholesterin crystallizes out on cooling and is then boiled with an alcoholic solution of sodium hydroxid so as to saponify the fats which are present. The alcohol is distilled off and the residue extracted with ether, which removes the cholesterin and leaves the soaps behind. The ether is separated and evaporated, leaving the cholesterin in a crystalline form. It can be further purified by recrystallization from a mixture of alcohol and ether (Simons: Physiological Chemistry).

While we find no specific method for preparation from the bile, it is probable that it might be obtained by evaporating the liquid to dryness, extracting with ether and treating the ethereal residue as above described. We believe, however, that the manufacture would present such difficulties as to make it impracticable for the physician or pharmacist, unless he had the facilities of a manufac turing chemist. The present price of cholesterin is about 50 cents per gram, but the price will doubtless be greatly reduced as soon as there is a sufficient demand. Cholesterin crystallizes in characteristic colorless, transparent plates, with ragged margins and angles. The crystals melt at 145 C. (293 F.). It is nearly insoluble in water, dilute acids and alkalies, but dissolves with ease in ether, chloroform, benzol, and in boiling alcohol. From its ethereal solution it crystallizes out in the form of fine needles. It is also soluble in the essential and fatty oils and is held in solution in the bile by the presence of the bile salts.

EFFECT OF CHLORIN WATER ON CALOMEL.

Davis, W. Va., Dec. 7, 1908.

To the Editor:—In The Journal, *November 28, I note an inquiry* as to the effect of giving chlorin water and calomel at the same time. I have given many hundred doses of calomel to patients who were taking chlorin water at the same time and none of these patients ever showed any signs of mercurial poisoning.

A. P. Butt, M.D.

Answer.—There is no doubt that chlorin water acting on calomel will convert it into corrosive sublimate. If the chlorin water and calomel were mixed before taking there would be great danger that all the calomel would be converted into the poisonous corrosive sublimate and serious symptoms or fatal poisoning result. The mixture is an incompatible one which should be most scrupulously avoided. In case the calomel is given at a separate time, the effect will depend on the amount of chlorin water in the stomach at the time the calomel is taken and on the dose of the calomel. In this case also care should be exercised, since it is quite possible that chlorin water may have remained in the stomach beyond the time when one would expect it to have passed into the intestine. It is wise to bear in mind the fact that some patients are very susceptible to poisoning by mercury. In explanation of the fact that our correspondent has not seen bad effects from this practice, it should be noted that when chlorin comes in contact with food or liquids containing much organic matter it is reduced and no longer acts on calomel.

INROADS OF WORMS ON FAMILY PRACTICE.

To the Editor:—The following experience has occurred repeatedly in my neighborhood: A child is ailing and the grandmother at once says, "Worms." The family physician smiles at the old lady's diagnosis and prescribes tonics, etc., after frightening the family by asking for specimens of his little patient's sputum and urine. He never asks for specimens of the stool. As the child continues ailing and peevish, the mother yields to the old lady's insistence and gives some patent worm tablets, without the doctor's knowledge, but with the result that the child passes a pint of worms. The confidence of that family in medical science is shaken, and henceforth "grandmother's remedies" reign supreme. "Doctors nowadays have got beyond worms, but we grandmothers know better." When the home remedies fail, the family is ripe for Eddyism. Layman.

Answer.—The suggestion that a child's indisposition may be due to worms is so frequently made that it would be strange if it did not prove to be true once in a very great while. Although the circumstances narrated are rare, it is well to bear in mind that the grandmother may be right.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

Arizona: Phoenix, Jan. 4-5. Sec., Dr. Ancil Martin.

Arkansas: Little Rock, Jan. 12. Secretaries: Regular, Dr. F. T. Murphy, Brinkley; Homeopathic, Dr. P. C. Williams, Texarkana; Eclectic, Dr. A. J. Widener, Little Rock.

Colorado: Denver, Jan. 5. Sec., Dr. S. D. VanMeter, 1723 Tremont St.

District of Columbia: *Washington, Jan. 12. Sec., Dr. George C.* Ober, 210 B. St., S. E.

Illinois: Coliseum Annex, Chicago, Jan. 18-20. Sec., Dr. J. A. Egan, Springfield.

Minnesota: Old Capitol, St. Paul, Jan. 5. Sec., Dr. W. S. Fullerton, 214 American National Bank Bldg.

New Hampshire: Concord, Dec. 29-30. Regent, Mr. H. C. Morrison.

New Mexico: *Santa Fe, Jan. 11.* Sec., Dr. J. A. Massie.

South Dakota: Sioux Falls, Jan. 13-14. Sec., Dr. H. E. McNutt, Aberdeen.

Utah: Salt Lake City, Jan. 2 Sec., *Dr. R. W. Fisher.*

Vermont: Montpelier, Jan. 12-14. Sec., Dr. W. Scott Nay, Underhill.

Washington: Spokane, Jan. 5-7. Sec., Dr. Kenneth Turner, Walker Bldg., Seattle.

Wisconsin: Milwaukee, Jan. 12-14. Sec., Dr. J. V. Stevens, Jefferson.

Marriages

W. L. Marshall, M.D., Viola, Ala., to Miss Eula Seymour, of Roanoke, Ala., recently.

John E. Gleason, M.D., to Miss Eleanor Merrill Hovey, both of Detroit, November 24.

Richard S. Benner, M.D., to Miss Marion McClean, both of Springfield, Mass., November 18.

Edward H. Egbert, M.D., to Miss Elizabeth Hawes, both of Washington, D. C., November 26.

John A. Williams, M.D., to Mrs. Susan Reece Hume, both of Greensboro, N. C., December 3.

J. King B. E. Seegar, M.D., Baltimore, to Miss Elizabeth Bosley, at Towson, Md., December 2.

Arett C. Arnett, M.D., Lafayette, Ind., to Miss Ethel McKinstray, of Noblesville, Ind., recently.

Chester M. Counsell, M.D., Kansas City, Mo., to Miss Ruth Truitt, of Dyersville, Iowa, December 1.

William E. Gossett, M.D., Buffalo, Wyo., to Miss Laura M. McKown, of Sheridan, Wyo., November 22.

Ashby M. Taylor, M.D., Elsberry, Mo., to Mrs. Mary J. Cornick, of Batchtown, Ill., September 24.

Harry Field Parker, M.D., Warrensburg, Mo., to Miss Martha Sousley, of Lowville, N. Y., November 25.

Alfred Turpin Calhoun, M.D., Cartersville, Ga., to Miss Emma Thornton, of Talladega, Ala., November 18.

Reid Hunt, M.D., U. S. P. H. and M.-H. Service, to Miss Mary Lillie Taylor, of Washington, D. C., December 12.

Deaths

William Whitfield Miller, M.D. University of Virginia, Charlottesville, 1901; afterwards assistant in bacteriology in Columbia University; assistant pathologist and for two years a member of resident staff of the Roosevelt Hospital, demonstrator of pathology at the College of Physicians and Surgeons, Memphis, in 1905; commissioned as assistant surgeon in the U. S. P. H. and M.-H. Service in 1906; and a year later assigned to the Hygienic Laboratory of the Service in Washington; who had made especial investigation of the origin and prevalence of typhoid fever and did much original work in the search for bacillus carriers; who discovered a pathogenic hemogregarine in the blood of white rats, described its life cycle and the mechanism of infection by the digestive tract, a preliminary note of which was published in the Public Health Reports, July 24, the completed work forming Hygienic Laboratory Bulletin No. 46; died in *Providence* Hospital, Washington, November 24, from typhoid fever, aged 28.

John Thorne Wheeler, M.D. Bellevue Hospital Medical College, New York City, 1876; a member of the American Medical Association; formerly vice-president of the Medical Society of the State of New York and president of the Columbia County Medical Society; who inaugurated the Third District Branch of the Medical Society of the State of New York and was its vice-president; medical expert to, and director of, the division of communicable diseases of the State Department of Health; local surgeon at *Chatham*, N. Y., for the New York Central Lines, and the Rutland Railway; a member of the local board of education for twenty-seven years; died at his home, December 3, from pneumonia, aged 57.

Joseph Dobbins Davidson, M.D. Vanderbilt University, Nashville, 1882; a member of the American Medical Association; president of the Burnett Sanitarium, Fresno; formerly health officer of Fresno county; and a prominent surgeon; died at his home November 30, from heart disease, aged 46. The Fresno County Medical Society, at its meeting December 1, appointed a committee to prepare resolutions relative to Dr. Davidson's death, and then adjourned as a mark of respect to his memory.

Bethuel Lewis Dodd, M.D. College of Physicians and Surgeons, New York City, 1852; for twenty-five years a practitioner of Newark, N. J., for a time police surgeon for the city, and surgeon-in-chief for the Pennsylvania Railroad, and physician of Essex county; examining surgeon for the Thirteenth and Twenty-Sixth New Jersey Volunteer Infantry during the Civil War; died at the home of his son in Newark, *December 7,* from senile debility, aged 83.

George H. Bicknell, M.D. University of Nebraska, Omaha, 1895; a member of the American Medical Association; adjunct professor of ophthalmology in his alma mater; rhinologist and laryngologist to the Clarkson and Nebraska Methodist hospitals, Omaha; a well-known oculist and aurist; died in the Methodist Hospital, Omaha, November 28, from septic pneumonia, following an abdominal abscess of several months' standing, aged 44.

Joseph Maurice Fox, M.D. Jefferson Medical College, Philadelphia, 1852; a Confederate veteran; originally a practitioner of Sedalia, Mo., but later a member of the World's Fair Commission from Montana; general superintendent of the Oregon Railway and Navigation Company; and general manager of the Northern Pacific coal properties; died at the home of his daughter in Victor, Colo., November 28, from cerebral hemorrhage, aged 76.

Mary L. Craffey-Osgood, M.D. New England Female Medical College, Boston, 1865; for thirty-five years a practitioner of St. Louis; who did heroic work in Memphis, Tenn., during the yellow fever epidemics in 1878 and 1879, where she was in charge of one of the emergency hospitals; died at her home, December 3, from heart disease, aged 60.

Franz Muecke, M.D. University of Griefswald, Germany, 1856; surgeon of the Fifty-Eighth New York Volunteer Infantry, during the Civil War; who later filled several governmental positions in Germany, and afterward returned to this country, settling at Rochester, N. Y.; died at his home in that city, November 26, aged 75.

Ella A. Jennings, M.D. New York Medical College and Hospital for Women, New York City, 1878; founder of two Providence Dispensaries for women and children in Brooklyn; and for many years editor of *Humanity and Life;* died in King's County Hospital, Brooklyn, November 29, aged 59.

Calhoun Sams, M.D. Medical College of the State of South Carolina, Charleston, 1860; assistant surgeon and later surgeon of Colonel Black's South Carolina Cavalry in the Confederate service during the Civil War; died at his home in Taylor, Texas, November 22, aged 70.

Charles William Murset, M.D. Cornell University, New York City, 1905; of West New Brighton, Borough of Richmond, N. Y.; house physician at St. Vincent Hospital and the Seton Hospital, Staten Island; died at the home of his aunt in Meriden, Conn., November 28.

Edith A. Root, M.D. Northwestern University Womans' Medical School, Chicago, 1875; a pioneer practitioner of Denver, Colo.; and some-time president of the Denver Clinical Club; died at her summer home in DeKalb, Ill., from pneumonia, November 26, aged 67.

John Armstrong Lindsay, M.D. Western Reserve University, Cleveland, 1856; a member of the American Medical Association, and one of the oldest practitioners of Columbiana county, Ohio; died at his home in Salineville, December 3, from cerebral hemorrhage, aged 75.

Percy Lothrop, M.D. Long Island College Hospital, Brooklyn, 1901; a member of the Samoset Medical Society of Plymouth, Mass.; physician and surgeon to Jordan Hospital; died suddenly at his home in Plymouth, November 20, from heart disease, aged 31.

William J. Earhart, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1864; one of the founders and for several years in charge of the Hahnemann Hospital in that city; was found dead at his home December 4, from heart disease, aged 67.

J. Nathaniel Henry Huggins, M.D. Rush Medical College, Chicago, 1880; a member of the State Medical Association of Texas; and a Confederate veteran; for several years city physician of Georgetown; died at his home November 29, aged 76.

John P. Houston, M.D. Chattanooga (Tenn.) Medical College, 1904; a member of the Medical Association of the State of Alabama; died at his home in Arbacoochee, near Heflin, Ala., December 5, from injuries received by being struck by a train.

Cullen M. Cottongim, M.D. Memphis Hospital Medical College, 1906; of Teague, Tenn.; a member of the Tennessee State Medical Association; was shot and killed as the result of a feud, December 6, aged 37.

Albert B. Pitts, M.D. Washington University, St. Louis, 1882; Tulane University, New Orleans, 1883; was shot and killed in his office in Hazelhurst, Miss., December 10, by a professional rival.

Emery M. Henry, M.D. Southern Homeopathic Medical College, Baltimore, 1892; of Laurel Point, W. Va.; died in the Maryland Homeopathic Hospital, Baltimore, December 2, aged 40.

Solomon S. Carr, M.D. American Medical College (Eclectic), St. Louis, 1882; a member of the first school board of Ardmore, Okla.; died at his home in that city, December 1, aged 76.

Daniel Webster Styer, M.D. Jefferson Medical College, Philadelphia, 1888; a member of the American Medical Association; died at his home in Churchtown, Pa., December 7, aged 45.

John C. Ireland, M.D. Miami Medical College, Cincinnati, 1908; an interne at the German Deaconess Hospital, Cincinnati; died in that institution, November 28, from typhoid fever.

John A. Rega, M.D. University of Heidelberg, Germany, 1848; was fatally burned by the explosion of a gasoline stove in his home in Gouverneur, N. Y., November 29, aged 87.

John W. Acuff (License, Tenn., 1889) for more than forty years a practitioner of Tennessee; died from cerebral hemorrhage at his home in Bellbuckle, November 30.

Louis Philip Knapp, M.D. College of Physicians and Surgeons, New York City, 1891; died at his home in Hackensack, N. J., from liver disease, December 3, aged 39.

Dennis J. Boudreau, M.D. Saginaw Valley Medical College, Saginaw, Mich., 1903; of Newberry, Mich.; died in that place November 19, from typhoid fever, aged 33.

Norval Smith, M.D. Queen's University, Kingston, Ont., 1904; of Bridgeport, Conn.; died in the Bridgeport Hospital, December 1, from cerebrospinal meningitis.

George C. Richards, M.D. University of Nashville, 1868; a Confederate veteran; died at his home in Nashville, December 4, from cerebral hemorrhage, aged 74.

Luther L. Chamblin, M.D. College of Physicians and Surgeons, Baltimore, 1878; died at his home near Philomont, Va., December 2, from paralysis, aged 53.

William Emrich Walker, M.D. Harvard Medical School, Boston, 1902; died at his home in Fairhaven, Mass., November 30, from pleuropneumonia, aged 34.

Jay H. Fordyce, M.D. Medical College of Ohio, Cincinnati, 1879; of Wichita, Kan.; died in the Wichita Hospital, December 3, from heart disease, aged 54.

William Henry Winter, M.D. University of Nashville (Tenn.), 1902; died at his home near Hickman, Ky., November 20, from pneumonia, aged 43.

Frederick W. H. Herbertz (years of practice, Mich., 1900), for thirty years a practitioner of Detroit; died at his home, December 7, from dropsy, aged 62.

Frederick N. Burgess, M.D. Harvard Medical School, Boston, 1865; a veteran of the Civil War; died at his home in Hantsport, N. S., recently, aged 66.

Charles R. Keyes, M.D. Detroit (Mich.) Medical College, 1875; died at his home in Ludlowville, N. Y., December 1, from nephritis, aged 58.

Thomas C. Tipton, M.D. Starling Medical College, Columbus, Ohio, 1852; died at his home in Williamsport, Ohio, November 27, aged 80.

Nelson S. Darling, M.D. Starling Medical College, Columbus, Ohio, 1853; of Laporte, Ind.; died in Wichita, Kan., December 10, aged 77.

Joseph W. Kelly, M.D. Rush Medical College, Chicago, 1894; died at his home in Hudson, Wis., December 2, from pneumonia, aged 38.

Nathaniel L. Story (License, Iowa, 1886); for thirty years a practitioner of Iowa; died at his home in Mitchell, November 19, aged 64.

John Homer, M.D. Harvard Medical School, Boston, 1865; of Newburyport, Mass.; died at his home, November 24, aged 73.

M. D. Alford, M.D. Vanderbilt University, Nashville, 1883; of Roberson Fork, Tenn.; died at his home, November 22, aged 56.

George H. Voss, M.D. Hahnemann Medical College, Chicago, 1899; died at his home in Detroit, December 5, aged 41.

John H. Schriefer, M.D. University of Louisville, 1891; died at his home in Prospero, Ind., November 20, aged 47.

Book Notices

ATLAS OF CLINICAL SURGERY, with Special Reference to Diagnosis and Treatment. By Dr. Ph. Bockenheimer, Professor of Surgery in the University of Berlin. English Adaptation by C. F. Marshall, M.D., F.R.C.S., Late Assistant Surgeon to the Hospital for Diseases of the Skin, London. Three Volumes. Flexible Leather, with illustrations. Price, $24.00 per set. New York: Rebman Co.

The nature, scope and aim of this work is indicated by the following extract from the author's preface: "Those who are acquainted with the history of medicine know that, even in ancient times, it was sought to represent pictures of disease by the aid of plastic art. No wonder, then, that, at the present day, when medicine has made such great progress in all domains, we take advantage of all measures which may facilitate the study of morbid conditions. The rich material of von Bergmann's clinic, which has been placed at my disposal, renders it possible to give plastic representations of all surgical diseases which are suitable for production in this way. The models were executed with greatest skill by F. Kolbow in the pathoplastic institute at Berlin, and have proved of much value in the teaching of clinical surgery. The models have been reproduced by the four-color process, which gives a more natural appearance than can be obtained in reproduction with water colors. In this work clinical pictures have been represented with a view to assist the practitioner in diagnosis and to give the student a survey of the more important surgical diseases. For this purpose, the malignant and benign tumors, a number of pyogenic, tuberculous and syphilitic conditions which are common in surgical practice, have been figured and described, along with numerous other cases which belong to the domain of surgery."

The tendency in anatomy of late has been to employ atlases presenting thus a clear picture of structures and their relations. The atlases of anatomy written by Spalteholz and Toldt, have proved eminently satisfactory to teachers in presenting the subject to students. Bockenheimer has employed this method in his clinical atlas, presenting a picture of a typical lesion, to which is appended a short description of the clinical course of the disease, differential diagnosis, prognosis and treatment. The book bears the same relation to the subject of clinical surgery that the atlas of Spalteholz does to that of gross anatomy. The four-color process reproduces faithfully the lesions in their original colors. The descriptions are short, but clear. Their value is increased by the fact that in most cases the experience of but a single authority is given. The translation, although somewhat literal, is very readable. The book is destined to occupy the same place in clinical surgery that the atlases prepared by Spalteholz and Toldt do in anatomy.

DIE KOMPLIKATIONEN DER STIRNHÖHLENENTZÜNDUNGEN. Von P. H. Gerber, a.o. Professor und Direktor der Königl. Universitäts-Poliklinik fur Hals und Nasenkranke in Königsberg i. Pr. Paper. Pp. 457, with illustrations. Price, $3.60. Berlin: Verlag von S. Karger, 1909.

This book contains an exhaustive critical study of all that is known regarding those complications of inflammation in the frontal sinus which call for operative interference. It includes a study of the normal anatomy and histology of the frontal sinus, the methods of infection, the bacteriology and a detailed study of the various pathologic changes in the membranes and walls of this sinus. The latter is treated under the following subheadings: "Periostitis and Ostitis," "Antritis Frontalis Abscedens," "Antritis Frontalis Dilatans," "Pneumatocele," "Cholesteatoma" and "Osteomyelitis." Under "Organ Complications" are discussed the oculo-orbital complications and the intracranial complications. The concluding chapters contain a general discussion of etiology and therapy.

TEXT-BOOK OF HUMAN PHYSIOLOGY. By George V. N. Dearborn, A.M., (Harv.) Ph. D., M.D. (Col.), Professor of Physiology in the Medical and Dental Schools of Tufts College, Boston. Cloth. Pp. 550, with illustrations. Price, $4.00. Philadelphia: Lea & Febiger. 1908.

In this book we have an attempt to present the important facts of physiology in sufficient detail for the needs of students of medicine and dentistry without going to the extreme length so noticeable in a number of works used in the medical schools of this country. Dr. Dearborn appears to possess a proper sense of proportion, and has avoided padding his book by the introduction of matter of secondary importance only and by quoting a long aray of literature references, which for the freshman or sophomore are often worse than useless, since they frequently confuse, rather than assist. A text-book for beginners in medicine need not be a complete reference manual. The book is divided into thirteen chapters, treating of the topics usually included in works on general physiology. These chapters are well illustrated, a fair proportion of the illustrations being apparently new. Chapter 12 is devoted to a discussion of mental processes and the relations of mind and body. The extent of this discussion is somewhat unusual in a text-book of this character, but it can not be said to be out of place. In a lengthy appendix full directions are given for performing a large number of important illustrative experiments, so that in a sense the book is likewise a laboratory manual.

In the main the style and treatment are satisfactory, and what Dr. Dearborn has to say is presented in a tangible and straightforward manner, which in a text for beginners is always of the first importance. But, unfortunately in his efforts at simple elucidation he has frequently sacrificed accuracy. An illustration of this is found in the color plate facing the title-page, which is described as a diagram of cell metabolism. Such a sketch as a blackboard illustration, with proper explanation of its tentative character and limitations, might be very helpful, but as presented it conveys a wrong impression as to the extent of our knowledge on several points. The same general objection may be urged against the diagram on page 27. While this is described as "highly diagrammatic," it must still be urged that the impression it would convey to the average student would be an erroneous one. There are also a number of illustrations which seem to have but little relation to matters presented in the text. The specialist in histology, embryology or chemistry will be able to pick out a number of departures from strict accuracy in the discussions, but most of these appear to be of minor importance, and may be, perhaps, overlooked in a first edition. On the whole the book should find a place in the instruction of medical students.

WALSH'S PHYSICIAN'S COMBINED CALL-BOOK AND TABLET, Monthly Form. Thirtieth Edition. Flexible Leather, with Pocket and Special Memoranda. Price, $1.50. Washington, D. C.: Ralph Walsh, M.D.

WALSH'S PHYSICIAN'S HANDY LEDGER. A companion to "Walsh's Physician's Combined Call-book and Tablet." Cloth. Pp. 600 (for 600 patients). Price, $3.50. Washington, D. C.: Ralph Walsh, M.D.

THE MEDICAL RECORD VISITING LIST for 1909. Flexible Leather, with pocket and special memoranda. New Revised Edition. Price, $1.50. New York: William Wood & Company.

THE PRACTITIONERS' VISITING LIST for 1909. Flexible Leather, with flap, pocket and pencil, calendar for two years, and dose list and other memoranda. Price, $1.25. Philadelphia: Lea & Febiger.

The three visiting lists are all handy, compact, durable and well made, and will prove of great labor-saving value to the practitioner. The Medical Record and the Practitioner's books are issued in various forms, according to the size of the practice and the preference of the user. As to data included, all are about alike. The data are most valuable for the physician to have with him at all times. The Walsh call-book is arranged for the record of a patient through a whole month without rewriting the name. It is intended to be used in connection with the ledger in which a page is given to each patient, the two books being intended to be used in combination at a minimum expense of time and yet with the advantage of being able to see without difficulty the charges and the nature of the various items of attendance for the whole year.

PAIN, Its Causation and Diagnos [illegible] in Internal Diseases. By Dr. Rudolph Schmidt, [illegible] Hof-rat von Neusser, Vienna. Trans [illegible] M. [illegible] and Vogel, M.D., Instructor in Pathol [illegible] M.D., Surgeons, Columbia University, a [illegible] Instructor in Bacteriology. College of Physicians and Surgeons, Columbia University. Cloth. Pp. 326, with illustrations. Price, $3.00. Philadelphia: J. B. Lippincott Co.

This book deals with the diagnosis of visceral diseases, starting with the symptomatic pain which may accompany them. The discussion of pain, its quality, its location, its cause and its significance in individual diseases is preceded by chapters on "The Sensation of Pain," "Functional Modifications of Pain," "Topography in Its Relation to Pain," and "Quality and Times of Occurrence." About 30 pages are devoted to the nervous system, a brief chapter to organs of motion, about 120 pages to diseases of the digestive system, including the liver and pancreas, about 30 to the urinary system and spleen, and finally a brief chapter to the respiratory and circulatory systems. The pages which treat of the digestive system are the most satisfactory for the diagnosis of painful diseases of this system is considered very fully.

The details of Schmidt's views can not be gone into in this review, but to give the reader an idea of his style and opinions on one subject, the following is selected from the 20 pages devoted to pain in round ulcer of the stomach, in which he considers fully the diagnosis of the disease. Correctly, as we believe, Schmidt lays more stress on hyperchlorhydria than most do. He says: "I consider hydrochloric hyperacidity is very far from frequent in ulcer and have, furthermore, been able to convince myself that in undoubted cases of the lesion even large doses of dilute hydrochloric acid have not increased the pain. There may exist what I think is rather frequent, namely, a hyperesthesia to hydrochloric acid accompanied by even subnormal hydrochloric acid values." Much weight is attached to the stretching of the stomach walls by flatus as cause of pain in ulcer. The whole subject, however, is most interestingly considered.

Schmidt attaches only moderate diagnostic value to the time after eating when pain appears. It may occur quickly after eating in pyloric ulcer or be much delayed. He does attach importance to the promptness with which it can be relieved by anesthesia or cocain. If the ulcer is in the stomach or esophagus, pain disappears in about fifteen minutes after the drug is administered.

Students of diagnosis will find this book invaluable, and will appreciate Schmidt's accuracy, fulness of statement and good judgment. The book is well translated; the few lapses from idiomatic English are negligible.

SURGICAL MEMOIRS AND OTHER ESSAYS. By James G. Mumford, M.D., Instructor in Surgery, Harvard Medical School. Cloth. Pp. 358, with Illustrations. Price, $2.50. New York: Moffat, Yard & Co., 1908.

This is a group of addresses and papers, some already published individually in different journals and books, as well as others not heretofore printed. The introductory chapter is a historical review of surgery, and appeared as the first chapter of Keen's "Surgery." This narrative of surgery includes brief sketches of some of the historical characters in medicine, of those who have made American surgery, and a more extended account of Lord Lister and his work. "Teachings of the Old Surgeons" is an interesting chapter, critically reviewing the work and views of the surgeons of old. It shows that there was some good philosophy and not a little sound reasoning in the surgical literature of the past, and that good judgment was used in much of the work of the old surgeons. Sketches of Sir Astley Cooper, John Collins Warren and Jacob Bigelow occupy chapters. In an address, "Boston Medicine One Hundred Years Ago," is a delightful sketch of that remarkable, but little known character, little known, that is, as a medical man, Dr. Samuel Gridley Howe, to whom the blind and feeble-minded owe so much. "Studies in Aneurism" is a historical account of this condition and the methods of its cure, leading up to and including a description of the brilliant yet simple method originated by Matas of New Orleans. "Present Problems" and "The Nurse's Vocation" are addresses to nurses. The volume closes with a short chapter on "History and Ethics in Medicine."

These essays are all delightful and interesting; but more important, they are instructive and stimulating to good work.

A TEXT-BOOK OF DISEASES OF WOMEN. By Charles B. Penrose, M.D., Ph.D., Formerly Professor of Gynecology in the University of Pennsylvania. Cloth. Sixth Edition. Pp. 550, with illustrations. Price, $3.75. Philadelphia: W. B. Saunders Co., 1908.

This volume, originally written with particular regard for the demands of the medical student, remains in this respect unchanged. The subject matter is compactly and concisely presented, and the price is attractive to the average undergraduate. In general it may be said that the reader is not confused by abstract theorizing or by a complex presentation of the various subjects discussed. Only one plan of treatment for each disease is considered, and only such facts relating to anatomy, physiology and pathology are mentioned in any detail as seem necessary for the elucidation of the point being made. The arrangement of the subject matter has not been changed. Thus Penrose takes up in detail the treatment of his operative procedures subsequently to his consideration of the various surgical diseases. This is, again, a distinct advantage. The various neoplasms are treated in an adequate manner and the plastic work is described according to the methods employed by the best teachers.

Miscellany

Professor Martin's Impressions of America.—Our Berlin correspondent has recently described in detail (THE JOURNAL, October 10, page 1246, and October 31, page 1523) the manner of organization of the profession in Germany in compulsory "public" medical councils and in "private" associations. Prof. A. Martin and Prof. A. E. von Rosthorn, the editors of the *Monatsschrift für Geburtshülfe und Gynakologie*, have been guests of the American Medical Association at annual sessions. Professor Martin, in an editorial in the October number of his journal, pays a high tribute to the scientific and other aspects of the Chicago session, remarking in conclusion: "The American Medical Association represents in an extremely powerful form our various organizations for scientific and economic purposes. In its organization it forms a mighty force which issued from the private initiative of the physicians of the United States, and is working with insight and power to raise the medical profession in every direction. It was a delight to see our colleagues at work also in this line. This organization is certainly not the least factor in the vast medical and educational development of the last twenty-one years which I had ample opportunity to observe during my trip across the continent to the Pacific coast." He commends the rules of membership in the American Gynecological Society, whose annual meeting he also attended, and comments on the management of the medical colleges, remarking that the faculties in American colleges are not composed, as in Germany, each of one or two regular and one or two assistant professors and privat docents, but of a very large teaching force. The professors not only divide among themselves the theoretical and practical instruction but also change frequently in the charge of the hospital services. He has been able to watch this great development along all lines during the twenty-one years since he has been coming to this country, but states that the specialty of obstetrics has only a few representatives. "Instruction in obstetrics is not given even approximately as in Germany, except at a very few points. I believe that only Philadelphia, Baltimore, Chicago and New York have large maternity hospitals connected with the medical colleges. Generally there are only a few beds for the lying-in department. Instruction is almost exclusively theoretical; practical instruction is offered in the polyclinics, with which a few prominent instructors are connected and where they work with commendable zeal. There is an absolute lack of pregnant women as teaching material except where there are Slavic and oriental immigrants. 'Gynecology' seems to mean in the United States merely 'abdominal surgery.' Only a few of the prominent gynecologists pay any attention to the so called minor gynecology, but all seem to regard operations on the appendix, gall bladder and kidneys as pertaining to their domain. This explains the exclusive choice of abdominal section in preference to vaginal operations. Under these conditions it was noticeable that several of the papers at the meeting were devoted to obstetrics or kindred subjects." Martin remarks further that manikins for teaching purposes do not seem to be much known, "probably because of the difficulty of obtaining the cadaver models." He deplores further the prevailing lack of training in vaginal operations, ascribing the neglect of the vaginal route in large measure to the custom of removing the appendix when the abdominal cavity is entered for any reason.

Coliuria and Colitoxemia.—Under these names, F. Kornfeld (*Beiblatt z. d. Mitt. d. Gesellsch. f. inn. Med. u. Kinderh. in Wien*, 1908, vii, No. 5) calls attention to a subject the importance of which had not been fully appreciated prior to his earlier articles published in 1904 and 1906, viz., the exclusive infection of the bladder by the colon bacillus and the symptoms it produces. The freshly evacuated urine, in the cases here considered, is uniformly turbid from the included colon bacilli, other species not being present; and the condition is to be sharply distinguished from the bladder inflammation caused by mixed infection. It is a much less frequent disorder, is certainly not a preliminary stage, and is not associated with or followed by a pyelitis or cystopyelitis Its characteristic features—the immense amount of bacteria, the constant acid reaction of the urine, which lasts for a long period in exposed vessels after evacuation, and the peculiar stale, carrion-like, but never ammoniacal odor are all different from those of any other condition. Inoculations on animals sometimes fail of effect, sometimes cause local abscess, and in rare cases may cause fatal embolism. In all cases an increased turbidity follows milking of the prostate gland, but the colon cultures remain the same. The duration is long, even two decades or more; the origin of the bladder infection is considered to be mainly from the bowel through the intervening tissue or by way of the lymphatics. Another characteristic feature is the sudden febrile attacks which occur in many of the cases, resembling the inception of an acute infectious disorder, with chills, high temperature, prostration, anorexia, vomiting, etc., which, nevertheless, entirely subside in twelve or twenty-four hours, leaving the patient temporarily somewhat prostrated but otherwise soon in his usual health. These, Kornfeld considers, must be recognized as a special colitoxemia. Kornfeld here excludes from consideration a form of hematogenous colon bacillus infection, which frequently has the kidney pelvis as its point of entrance, and which also begins with symptoms suggesting septicemia; in his article he takes account of the coliuria only in the limited sense above described.

Heberden's Nodes.—L. Wick (*Beiblatt z. d. Mitt. d. Gesellsch. f. inn. Med. u. Kinderh. in Wien*, 1908, vii, No. 5) in a rather elaborate paper sums up his conclusions as to the nature, etiology, etc., of these growths as follows: Heberden's nodes are the expression of a trophic disturbance, a degeneration, which develops on the basis of a definite predisposition as an essential condition. As far as now known, the components of this predisposition are, senescence, a neuropathologic tendency (Anlage), but before all others, the decrease or disappearance of the function of the sexual glands; this last is in many instances perhaps the only determinable factor. There may be, he admits, other contributing conditions, among which are chronic rheumatism and gout, but it need not be identified with them. The nearest relations of the condition seem to be with arthritis deformans, but Wick is not inclined to consider it a phase of that disorder. The trophic skin changes and the sensory or vasomotor disturbances, point to the nervous system as participating largely in the disturbance. As regards treatment, he does not express himself very hopefully. He has never seen a spontaneous cure. The use of organotherapy would naturally be suggested with his view of the etiology and it has been experimented with by Badt, but apparently without marked results. Its value would be most probable in the incipiency of the condition. Von Noorden has reported good results from the use of hot hand baths and electricity and suggests the Bier hyperemia treatment as sometimes worth trying. The predisposing causes, gout, rheumatism, etc., are of course to be attended to as far as possible.

Influence of Temperature on Calf Vaccine.—A. B. Green, in the *Journal of Hygiene*, discusses this subject in detail and concludes that: (1) Temperature influences the rate at which glycerinated lymph deteriorates in accordance with the law of Arrhenius, expressing the effect of temperature on chemical action; the rate of deterioration increasing three times per 10 degrees rise in temperature. (2) Dry powdered calf vaccine in sealed glass capillary tubes still gave rise to typical vesicles after exposure to a temperature of 100° C. for from 5 to 10 minutes. (3) The vaccine virus can withstand positive osmosis for 24 hours or more, and negative osmosis for 8 weeks or more, at room temperature. (4) It appears doubtful whether the vaccine virus will pass through a Berkefeld V filter even when a stored vaccine emulsion is used for filtration. If any virus does pass through, it only does so exceptionally and in small quantities. (5) When a glycerinated vaccine emulsion is filtered, white flocculi frequently form in the filtrate. These are at first minute, but subsequently adhere and form a macroscopic sediment. This sediment, when inoculated on calves, does not cause vesiculation. Microscopically these flocculi, in hanging drop preparations, resemble the vaccine bodies described by one or more observers.

Sanitation in Africa.—It is claimed that for a West African town, Bathurst, the capital of Gambia, may be said to be very presentable The streets are wide and clean, and mosquito and sanitary regulations are properly enforced, while a new departure has been made in putting representatives of the Mandingos and Joloffs on the Board of Health, apparently with satisfactory results. There were several outbreaks of smallpox in the colony during the last year; over 4,700 persons were vaccinated, and the natives, who at first refused to allow their children to be vaccinated, soon recognized its utility and sought to have it done. An attempt is being made to get a rough idea of the vital statistics of the people, and the chiefs were given red and blue books and instructed to mark in them all births and deaths in their district. Although these statistics are probably not too accurate, they will doubtless improve. The Bathurst death rate is only 31.6 per mille; but the climate is very trying during the rainy season from July to October, and in the dry season the thermometer may range from 56 F. in the early morning to 100 at midday.—*British Medical Journal.*

Society Proceedings

COMING MEETINGS.

American Assn. of Anatomists, Baltimore, Dec. 29-31.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held Oct. 28, 1908.

The President, Dr. Albert M. Eaton, in the Chair.

SYMPOSIUM ON TYPHOID FEVER VARIATIONS.

Abdominal Complications of Typhoid from a Surgical Standpoint.

Dr. Francis D. Patterson: The importance of the subject is best indicated by its frequency as shown by statistics. Vaughan states that the frequency of perforation has been variously estimated from 1.3 to 11 per cent. I have collected from literature a total of 21,215 cases of typhoid in which 671 perforations occurred, a frequency of 3.16 per cent. Figures of the Census Bureau show the average mortality from typhoid fever during the years 1901 to 1905 inclusive in the registration area to be 10,458 deaths per year. In 1906 this was increased to 13,160 deaths, these figures being exceeded only by those of six other countries. Pennsylvania contributed 3,917 deaths from the disease in 1906, and in Philadelphia from Jan. 1, 1903, to Sept. 15, 1908, there were 32,218 cases of typhoid fever, with 4,930 deaths. One death in every every three was due to perforation, which would give 1,613 perforative cases in Philadelphia alone during that time. Statistics show that perforation is as frequent in children as in adults; the existing causes are as a rule mechanical. Case reports show that perforation may occur during any period of the disease and in convalescence, but is most common between the second and fifth week inclusive. While in the majority of cases the lesion is found in the ileum, no portions of the intestinal tract are exempt. The lesions in typhoid are usually on the free border of the intestine opposite to the mesenteric attachment. The blood supply here being relatively poor, there is a predisposition to necrosis and perforation. When this takes place it is usually into the free peritoneal cavity and not between the folds of the mesentery. The symptoms should be divided into those occurring at the time of perforation, and those of the succeeding peritonitis. There is no pathognomonic sign of perforation. An accurate diagnosis is difficult in many cases. The prognosis of every case of perforation depends on the celerity with which operation is performed and the bacteriology of the resulting peritonitis. The streptococcic infections are usually fatal, while the chances of recovery are good in those due to the colon bacillus [The technic of the operation was described in detail and the report made of 842 cases with 609 deaths, a mortality of 72.32 per cent., which included the 362 cases reported by Harte and Ashhurst in their classical papers.] There is need of a close cooperation between physicians and surgeons in the management of cases of typhoid fever. The literature shows that typhoid fever patients stand operative interference better than would be expected.

Viability of the Typhoid Bacillus in the Body.

Dr. Norman B. Gwyn: Two phases may be recognized: 1, the period of the primary infection and convalescence—about six months; 2, the period of post-typhoid lesions or bacillary persistence—possibly the remainder of the patient's life. In the first period the viability is really more of a luxurious proliferation, the bacilli being readily found in the blood and almost every part of the body, giving rise to infections of various organs and parts. At that time bacilli lodge in the gall bladder and urinary bladder living there for months or years, and possibly from these parts come most of the late typhoid and post-typhoid lesions, the gall bladder discharging into the bowel regularly thousands of bacilli which may enter the circulation and lodge in any part; or, again, under some circumstances, infection from the urinary bladder may take place. This, briefly, may be the explanation of many of the supposed instances of viability in which 18, 20 or 30 years after an attack of typhoid, bone lesions, gall-bladder infection due to *Bacillus typhosus* occur, or persistence of typhoid bacilli in stools is seen.

Papers were also read by Dr. J. Torrence Rugh on "Joint Complications in Typhoid Fever," and by Dr. E. J. Beardsley on "The Genitourinary Complications of Typhoid Fever." Dr. Francis W. White's report of a case of typhoid spine will appear in The Journal.

DISCUSSION.

Dr. John A. McGlinn: I agree that it is exceedingly difficult to diagnose typhoid perforation. I always feel that it is much better to operate early at the risk of a mistake in diagnosis than to wait for an absolutely sure diagnosis and find the condition beyond hope of recovery.

Dr. L. Jay Hammond: I feel that the present high mortality in typhoid perforations will be lowered by prophylaxis rather than by operation or the let-alone method of treatment. From a careful investigation of the subject made a year or so ago I was led to the belief that in the majority of cases of typhoid perforations there had been adhesions due to preexisting disease, and that in all probability the interference with normal intestinal action, blood supply and peristalsis was a prominent factor in ulceration and subsequent perforation. We are told that during the first week of typhoid fever there are no symptoms referable to the abdomen *per se*. Therefore, given a case of typhoid fever during the first week of the disease with the symptoms prominently those of the abdomen we should strongly suspect an inflammatory condition, probably due to adhesions.

Dr. T. Turner Thomas: I have seen one case of typhoid spine, that of an old man convalescing from typhoid fever. He was taken with severe pain in the back, localized after three or four days in the lumbar spine. The painful condition lasted for a long time, with gradual improvement, and now, after more than three years, there is still a little pain and the back is weak.

Dr. Henry Beates, Jr.: Might not the fact that the typhoid bacillus always dies in rabbit serum give us a method of treatment which might result in destroying the bacillus of typhoid fever?

Dr. Edward J. G. Beardsley: When Gibney reported his case and introduced the term "typhoid spine," he distinctly stated that the term carried with it no pathologic implication; but his suggestion was that a periosteal lesion, inflammatory in character, and caused by the presence of the typhoid bacillus, would explain the condition. Dr. Osler, on the other hand, was inclined to the belief that the condition was a neurosis, and it remained for McCrae to point out that in every case in which an examination was made by *x*-ray, a pathologic lesion could be discovered. Of one thing we can feel sure, and that is that the recovery of the patient depends to a great extent on a correct diagnosis being made and suitable treatment instituted. Many cases of typhoid spine are considered to be lumbago, rheumatism, intercostal neuralgia, tuberculosis of the spine, etc., and faulty treatment advised before the true nature of the disease is discovered. I think it is well to point out that in all cases there is an actual lesion of the periosteum, the bone or the cartilages.

Dr. J. Torrence Rugh: I have a case at present in which operation is necessary to correct a deformity following injury which occurred in a typhoid patient and in whom there is a typhoid spine, and yet I am afraid to operate for fear of relighting the original suppurative inflammation which followed the typhoid infection. When we find that the typhoid bacillus is viable from ten to sixty years in the human body it becomes a matter of the greatest importance to the surgeon who contemplates operation. Typhoid spine is recognized by orthopedic surgeons as a distinct form of infection similar to the infection of the joints, and as a condition which takes on different characteristics in different patients.

BOSTON MEDICAL LIBRARY MEETING.

Regular Meeting, held Nov. 18, 1908.

Dr. Franklin G. Balch in the Chair.

Cancer of the Bladder.

Dr. Arthur T. Cabot: The two things most important are early diagnosis and the removal of the tumor with wide margin. Though early discovery is often difficult, it is rendered possible by the cystoscope. In case of doubt two cystoscopic examinations should be made. Often the disease is far advanced before the patient is seen. Therefore early symptoms should be watched for. These are intermittent hemorrhage, pain, frequency and urgency of micturition. Hemorrhage is the most constant early symptom, while frequent micturition, which oftenest sends the patient to the doctor for advice, is often only noticed when the disease is already well advanced. Under the microscope a urinary sediment which shows blood, particles of villi and clumps of atypical epithelium helps in the diagnosis. Cystitis is a medical disease, but is often referred to the surgeon, who will wisely look into every bladder where there is the slightest doubt. Probably all papillomata become cancerous unless early treated and removed. This may be done through the cystoscope, but incompletely. It is better to make an open incision and remove with a wide margin by actual cautery. Mayo recommends that the tumor itself be lightly cauterized in order to avoid possible contamination of healthy mucous membrane. Careful search should be made for any other tumors and watch kept for other symptoms. Cancer only slowly invades the neighboring lymph glands. Operation on the anterior wall or the fundus is easier than at the base, but the disease is most frequently located at the base. The intraperitoneal route is to be preferred. It gives more room and allows the whole thickness to be removed. If glands are removed because diseased, probably the disease is already too far advanced. The free wall may be removed to a surprising extent. Operation at the base is difficult, mortality is high and cure doubtful. Recurrence is frequent, but operation may be successful with small growths. One of the most serious problems is the care of the ureter, whose mouth is often involved in the operation. Reimplantation is difficult. Temporarily it may be put at the upper angle of the wound. Later a nephrostomy may be done and drainage established. Palliative operations are useful. Curetting and cauterizing often yield long periods, even years, of relief. Double nephrostomy has been proposed in order to give the bladder rest.

DISCUSSION.

Dr. F. S. Watson: I have made a study of all cases reported up to 1908, a total of 683 cases. The cures in the supposed benign cases have been few and the deaths following operations in the malignant cases many. Therefore, probably many, perhaps all, of the benign cases have been but the beginnings of cancerous growths and have recurred as such when not thoroughly removed. The high mortality seems due to lowered vitality, shock and renal infection. To reduce shock and the chance of renal infection a preliminary double nephrostomy should be done. Do not try to implant the ureters. By using a belt it is possible to keep the patient dry.

Dr. F. B. Harrington: I favor the intraperitoneal route for operation as I outlined it in 1893 and which I have developed since then.

Dr. Paul Thorndike: I have had fifteen cases of tumor of the bladder: none of these was benign and twelve were so disseminated that only total extirpation could be considered. Of the three patients operated on, one had recurrence on the posterior wall in nine months, one on the side wall in five months and one was lost track of. Palliative operations do not prolong life, but do greatly increase comfort, so that the patient dies of the cachexia and for long periods is free of pain. The intraperitoneal route is preferable to the suprapubic and nephrostomy to ureteral implantation.

Dr. Hugh Cabot: I believe in palliative treatment. A study of twenty-five cases shows that patients so treated have on the average a year of perfect comfort and six months more of comparative comfort. One of my patients had great relief for eight years. Those cases which heal rapidly do best in this respect.

Cystitis.

Dr. Arthur L. Chute: The subject may be divided into (1) acute cystitis, (2) chronic non-tuberculous and (3) chronic tuberculous. The acute form is the common one and due oftenest to extension from the urethra or kidney, to catheterization or to infection through the blood stream or lymphatics. Bacteriuria does not necessarily cause cystitis. It is specially important in each case to determine the predisposing cause. Still more important is this in chronic cases. Chronic cystitis is a form without the urgent features. Pus, however, is always present. Diagnosis from chronic kidney suppuration may be difficult. Cystoscopy may be necessary or even catheterization of the ureters. If after a bladder irrigation the urine next passed contains much less pus the diagnosis of cystitis is confirmed. Search should be made for the predisposing cause, such as disease of the kidney, antiflexed uterus, stone in the bladder, etc. Prognosis is good only if this cause can be removed. If untreated, cancer or fatal pyelonephritis may result. The lesion in the bladder wall is apt to involve deeper layers than the acute process. Suprapubic cystotomy may be necessary. Urinary antiseptics are of doubtful value. Irrigations are valuable but have their dangers. Where other methods have failed, opsonic treatment is likely also to fail. The tuberculous type occurs mostly in young adults for no known reason, is secondary usually to kidney disease, and gradually grows worse. Diagnosis is made by finding the tubercle bacillus. Treatment is directed first to the tuberculous kidney and afterward to the cystitis.

DISCUSSION.

Dr. Edgar Garceau: In diagnosis of cystitis hemorrhage is the principal symptom. Bimanual examination of women will sometimes show the presence of infiltration in the floor of the bladder and suggest malignant disease. Catheterization is a delicate operation, the soft rubber catheter being much safest. After nephrostomy it may still be wise to treat the bladder and not merely rely on rest. In chronic cases the patients are often helped and may even be cured by change of climate and attention to hygiene. Cystotomy ought to be done much more often than is now the custom.

Medicolegal

Corporations Other than Hospitals, Etc., Are Prohibited from Advertising to Practice Medicine.

The Court of Appeals, the court of last resort in the state of New York, has, in the case of People vs. John H. Woodbury Dermatological Institute, affirmed the judgment of conviction of the defendant of the crime of unlawfully advertising to practice medicine in violation of the provision of the statute of that state that "any person not a registered physician who shall advertise to practice medicine, shall be guilty of a misdemeanor."

The court says that it was argued that the context in the general act of 1907 regulating the practice of medicine, which contains the prohibition against advertising to practice medicine by any person not a registered physician, indicates conclusively that "any person" therein mentioned could not possibly have been intended to mean "any corporation."

The great difficulty in the adoption of a construction making this statute apply to corporations grows out of the existence of hospitals, dispensaries, and similar corporate institutions, which are unquestionably authorized by law to practice medicine, although, of course, only through the agency of natural persons who are duly registered as physicians. But the objects for which the defendent was incorporated were stated in the certificate of incorporation to be: "The carrying on of business of manufacturing chemical preparations and printing, publishing and selling books and pamphlets, relating to the same and advertising same." There could be no suggestion or pretense that this was a hospital corporation or dispensary.

In reference to hospitals and dispensaries, it could hardly have been the intention of the Legislature in the act of 1907 to prohibit such corporations from advertising to do what they might do lawfully—that is to say, from advertising to practice medicine; yet it was argued that, if the court held that the act of 1907 made it a misdemeanor for any corporation (making the term "person" embrace a corporation) to advertise to practice medicine, it must also hold that incorporated hospitals and dispensaries fell within the prohibition. If this were the necessary result of the construction adopted, it would furnish a strong reason for rejecting that construction.

It seems to the court, however, that it can affirm this judgment without in any wise denying the lawful right of hospitals, dispensaries, and similar corporate institutions to advertise their readiness to exercise their lawful functions; and this simply for the reason that the general medical law of 1907 is obviously not intended to apply to the case of such corporations at all. In other words, the prohibitions therein contained against the practice of medicine without lawful registration in New York state, or in violation of any of the provisions of the statute, or against advertising by any person not a registered physician, were not intended to apply and plainly could not reasonably be held to apply to corporate bodies which by the express provisions of other statutes are authorized to carry on the practice of medicine on compliance with their provisions and without registration.

The incorporation of hospitals is provided for in Section 80 of the membership corporations law of New York. An institution of this character, possessing legislative authority to practice medicine by means of its staff of registered physicians and surgeons, comes under the direct sanction of the law in so doing, and by the plainest implication, under well-settled rules of statutory construction relating to enactments dealing with the same general subject matter, is excepted from the operation of the act of 1907 under which the defendant was convicted.

It was suggested in behalf of the defendant that to attribute to the Legislature a design to prohibit a corporation which was not registered as a physician from advertising to practice medicine was to charge the lawmakers with doing an absurd act, inasmuch as it is impossible under the law for a corporation to register as a physician. There is nothing in this point. It might just as well be urged that there is no need of a law prohibiting a minor from voting, since everybody knows that a minor has no legal right to vote. This fact does not prevent illegal attempts on the part of minors to exercise the right of suffrage, and the facts in the present case show that a corporation may undertake to practice medicine without authority of law.

Cancer of the Womb Not a Disease Peculiar to Women.

The St. Louis Court of Appeals says that in the case of Shuler vs. American Benevolent Association, an action on a policy of health insurance, the policy provided that insurance under it should not extend to or cover diseases peculiar to women, and it was contended that the sickness of the insured being alleged to be cancer of the womb, was a disease peculiar to women. But the court does not agree with that contention. The disease itself, the court says, was not shown, and in fact could not have been shown, to be peculiar to women, for it is common knowledge that it attacks men as well as women, and the fact that it at times shows itself in an organ possessed by women and not by men does not make it a disease peculiar to women, for it could not be peculiar to women unless men are immune from its ravages. The court thinks that the correct interpretation of the provision in the contract exempting the association from liability for sickness caused by diseases peculiar to women, covered only such diseases as women have, and from which men are immune.

Local Rights Regarding Establishment of Contagious Hospitals.

The Supreme Court of Michigan says, in the case of Summit Township vs. City of Jackson, that the charter of the city, as revised in 1905, provides that the council may purchase the necessary lands and erect thereon, or otherwise provide, one or more hospitals, either within or without the city limits, and provide for the care and treatment therein of such sick and diseased persons as the council or board of health of the city shall deem proper, and by direction of the council or board of health persons having malignant infectious or contagious diseases may be removed to such hospital, and there detained and treated when the public safety may so require.

The township contended that this should be construed as requiring the city to obtain the consent, license, and permission of the proper township authorities, before it could maintain a smallpox or other hospital for the treatment of infectious and contagious diseases or bring patients infected with such diseases within the limits of an adjoining township. The city insisted that it conferred on it a governmental function and right which carried with it the right to use any site selected for the purpose indicated without reference to the consent or objection of the municipality in which the same might be located. The court inclines to the former construction, holding that the city could not bring patients infected with dangerous communicable diseases within the township without first obtaining consent therefor from its proper officers according to law.

The court says that by the general health laws of Michigan townships have been authorized to acquire sites for hospitals in other townships, but the right has always been subject to the consent of the township where the hospital is to be located. Cities by their charters and fourth class cities under the general law, have been given the naked right to acquire extraterritorial sites for contagious disease hospitals, for the reason that, without such legislation, such municipalities had no authority to do so. Nothing is said in any of these acts relative to the consent of the invaded township. But the construction that the authority to acquire hospital sites without their limits is an authority granted to cities and villages for the purpose of giving them a recognized benefit already enjoyed by townships generally, leaving them, as to the exercise and enjoyment of such benefits, to be governed by the general health laws in force on the subject, will comport with the well established doctrine of local self government of each municipality within its limits. Such construction is a reasonable one. It will preserve to each municipality the provision for the prohibition of the entrance of person, corpse or thing infected or suspected of infection with any dangerous communicable disease within any municipality, without the consent and supervision of its health officials, which has been the greatest safeguard of the public health.

There is no express indication in the Michigan legislation relative to the public health that municipal boundaries are disregarded and other or different districts established. The cities and townships within their respective limits are, in the execution of the laws relative to the public health, exercising a governmental function or agency. There is no authority of law given to one to invade the territory of any other, and there is grave doubt whether legislation which expressly granted such authority could be upheld. However, it was not necessary to determine that question in this case.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

December 5

1 Etiology of Dementia Praecox. M. J. Karpas, New York.
2 *Peritonitis Due to Appendicitis. F. Torek, New York.
3 Cholera and Commerce. W. T. Jenkins, New York.
4 Restoration of Sight After Nearly a Month's Blindness from Glaucoma. J. L. Minor, Memphis, Tenn.
5 Value of the X-Rays in Chest Diagnosis. A. L. Gray, Richmond, Va.
6 *Congenital Nephritis. H. T. Karsner, Philadelphia.
7 Glioma of the Brain Involving the Pia Mater. I. Strauss, New York.
8 Case of Fracture and Dislocation of the Second Cervical Vertebra. C. D. Fox, Philadelphia.

2. **Appendicular Peritonitis.**—Torek discusses the various forms of appendicular peritonitis, especially diffuse suppurative peritonitis, and reviews the various methods of treatment devised. He describes in brief outline his own method (fully detailed in the *Medical Record*, Dec. 1, 1906, and abstracted in THE JOURNAL, Dec. 15, 1906, p. 2035), and explains the purpose of the large median incision, the cleansing by irrigation, and the closure without drainage.

6. **Congenital Nephritis.**—Karsner reports a case in which a child that died 45 minutes after birth showed nephritis. The mother's history and physical examination were negative, and there was no indication of syphilis. The idea (as the woman was unmarried) that some drug might have been used to induce abortion was not overlooked, but no supporting evidence could be obtained. The child was also a "blue baby," so that it is not known how far the kidney condition was responsible for its death. Karsner has found only three cases on record in which infants have truly been born with nephritis.

Medical Record, New York.

December 5

9 *Overcoming the Predisposition to Tuberculosis and the Danger from Infection During Childhood. S. A. Knopf, New York.
10 *True Neurasthenia—Its Nature and Treatment. A. D. Rockwell, New York.
11 The Ultraviolet Ray and High Frequency Currents in Neurasthenia. S. Tousey, New York.
12 *Care of the Mouth During Infancy and Childhood. W. J. Lederer, New York.
13 *Special Provisions for Management of Certain Forms of Mental Disorder. A. Gordon, Philadelphia.

9. Abstracted in THE JOURNAL, Nov. 7, 1908, p. 1627.

10. **Neurasthenia.**—Rockwell, while protesting against the too indiscriminate diagnosis of neurasthenia, is yet a firm believer in the propriety of classifying under this head a great family of symptoms. Their infinite variety is marvelous, but while all do not coexist all will be found distributed among various subjects. In the majority of cases, though not in all, there is undoubtedly an hereditary tendency. When that is strong neurasthenia may develop without any apparent exciting cause, even so early as puberty. It takes years of evil indulgence to wreck the nervous system in a strong man, so that subjects of acquired neurasthenia are usually older. The effect of alcohol and drugs is largely a question of nervous stability. Hysteria is not neurasthenia, which indeed is met with in women far less frequently than in men. The sexual excesses that lead to neurasthenia are rarely those

of legitimate marriage relations, but are either perverted forms, or those of irregular sexual relations. The one overmastering symptom associated with a neurasthenic state is morbid fear. The author details the various classified phobias. As to treatment, with regard to rest cure or work, intelligent differentiation is needed. Cerebral excitement associated with physical exhaustion imperatively demands rest. In the lithemic—hearty eaters who suffer from autoinfection, whose irritability and unreasonable outbursts of temper differentiate their case from the mild melancholy of the neurasthenic of an entirely different type—work and activity in plenty are oftentimes the saving grace. While success rarely depends on drugs, their judicious employment is sometimes useful. The author mentions particularly zinc bromid, alone, or with belladonna, cannabis indica, etc. Of all physical methods he regards electricity as of the most positive value in neurasthenia. The influence of light and heat have been found useful. Mental therapeutics is without doubt an important factor in many cases. Rockwell relates an instance of gynephobia in which he initiated a cure, by himself taking the patient to a department store and compelling him to make purchases from the shopgirls.

12. **Care of the Mouth.**—Lederer discusses the development of the mouth and teeth and the importance of oral hygiene. Parents and guardians are woefully lacking in knowledge thereof, and the busy general practitioner does not realize its importance. Boards of health should cause children's mouths to be examined, and then the family physician should take up the work. He suggests the appointment of a stomatologist on every hospital staff. It is important before operation to have cleaned out not only the bowels, but also the other end of the alimentary tube.

13. **Mental Disorder.**—Gordon urges a careful discrimination of the overwhelming multitude of mental disorders with reference to the method of management. The insane asylums, as at present organized, are suitable for incurable psychic infirmities, but do not meet the material or moral requirements of recoverable maladies. It is important to avoid subjecting, for instance, patients with mild melancholia to an insane environment, and to the stigma that accompanies those who have once been in an asylum. Gordon urges the formation of a special mental disorder service in general hospitals. A patient in the hospital becoming unmanageable from delirium, etc., could be removed to this service, and when mentally fit again should be restored to his former service. These special services, moreover, could be used in the case of individuals suddenly developing a confusional state, which demanded observations. Should the case prove incurable, the patient could be transferred to an asylum. If curable, the treatment could be continued and the patient ultimately discharged well, with the thought that he had been treated in a general hospital. Special wards also would be of great educational value. The economic problem he considers solved by setting off against the expense the reduction in the enormous expense of overcrowded asylums with very little or hardly any result so far as treatment is concerned.

Lancet-Clinic, Cincinnati.

November 28.

14 *Present Status of Organotherapy. D. L. Edsall, Philadelphia.
15 *Practical Notes on Vesical Tumors. G. F. Lydston, Chicago.
16 Multiple Serositis. W. L. Bierring, Iowa City, Ia.

14. **Organotherapy.**—Edsall meets the objections to organotherapy based on a scornful charge of empiricism. The objections apply only to the lucky shot form of empiricism, the mystic form, and the form in which extensive speculation is built on a small basis of scientific fact. That form of empiricism, however, which consists in collating carefully observed facts and their apparent relation to other facts, even though it may be insusceptible of explanation, serves a good purpose in medicine, in the absence of more scientific knowledge. Edsall discusses organotherapy from this standpoint. The instability of the preparations and the fact that their natural supply by the organism is in small continuous doses while, unless we transplant organs, we are compelled to administer them only more or less occasionally, so that their effects are transitory, have to be overcome. Edsall suggests that this may be done by producing artificial substances that resemble the natural stimuli closely in their constitution and retain the desired activities, but have differences in structure that render them more stable and prolong their effects.

15. **Vesical Tumors.**—Lydston emphasizes the following points: 1, The importance of an early diagnosis; 2, the urgency of early operation; 3, the necessity of reliance to a great extent on clinical experience, rather than on the microscope for a diagnosis. In the absence of other more or less positive explanations, prolonged pyuria of vesical origin is likely to mean stone, tumor or tuberculosis. An early diagnosis is important in all of these conditions. More important still is the fact that an early diagnosis of bladder tumor, followed by immediate operation, may forestall the transition of a non-malignant into a malignant neoplasm. The dissenters from this view are chiefly laboratory men rather than clinical observers. Lydston insists on the possibility of the transition of syphilitic new growths into malignant. Under certain varieties and degrees of irritation the histology of a non-malignant neoplasm is altered by displacement and replacement of benign histologic elements by those of malignant disease. The process resembles to a certain extent that which is erroneously termed in Nature petrifaction.

Virginia Medical Semi-Monthly, Richmond.

November 27.

17 Interstitial Keratitis Due to Acquired Syphilis. J. H. Claiborne, New York.
18 Direct Inspection of the Trachea, Esophagus and Stomach. J. A. White, Richmond.
19 Coroners and Their Duties. J. W. Brodnax, Manchester, Va.
20 Diagnosis and Management of Occipito-posterior Position. J. W. Windston, Norfolk, Va.
21 *Perforating Wounds of the Uterus, Inflicted During the Course of Extrauterine Instrumentation (concluded.). A. P. Heineck, Chicago.

21. This article has been published repeatedly elsewhere.

Archives of Diagnosis, New York.

October.

22 Differential Diagnosis of Scarlet Fever, with Special Reference to the Scarlatiniform Eruptions. G. R. Pisek, New York
23 *Diagnosis and Clinical Significance of Alimentary Albuminuria. A. C. Crofton, Chicago.
24 *Sense of Weight in the Affected Side: Its Value in the Diagnosis of Lobar Pneumonia. T. F. Reilly, New York.
25 Diagnosis of Abscess of the Liver. C. G. Cumston, Boston.
26 Intrapancreatic Segment of the Bile Duct a Significant and Practical Landmark in the Biliary Ducts. B. Robinson, Chicago.
27 How are Exophthalmus, Tachycardia and Tremor Following Extirpation of Tuberculous Glands of Neck to be Explained. C. Beck, New York.
28 Diagnosis of Some Functional Diseases. R. T. Edes, Reading, Mass.
29 Peripheral Facial Paralysis of Syphilitic Origin, the Diagnostic Importance of Its Recognition. A. Gordon, Philadelphia.
30 Syphilis of the Nervous System. S. C. Ingham, Philadelphia.
31 Differential Diagnosis of Functional from Organic Palsies: Hemiplegia, Paralysis Agitans, Occupation and Habit Cramps and Spasms. T. A. Williams, Washington, D. C.
32 Differential Diagnosis Between Extrauterine Pregnancy and Early Abortion. R. Waldo, New York.

23. **Alimentary Albuminuria.**—Croftan means by alimentary albuminuria, the passage of native food albumin as such, unchanged from the alimentary tract into the urine. He describes the method of performing the precipitating reaction therefor. The fact he emphasizes is that one should learn to recognize the existence of a distinct and well-characterized form of albuminuria of rather favorable prognosis that is not due to a nephritis of toxic or infectious origin, to circulatory disturbances in the kidneys, to general cardiorenal disease (Bright's disease in the modern sense), but is due primarily to digestive disorders of a certain type. We are dealing here with an exclusively enterogenous albuminuria in the interpretation of which the renal idea proper should be largely relegated to the background and in which treatment should not, as in Bright's disease, be directed chiefly against disturbances about the general metabolism and the cardiovascular apparatus, but against a well-characterized perversion of the gastrointestinal and hepatic functions.

24. **Diagnosis of Lobar Pneumonia.**—Reilly, struck by the great weight of hepatized lung, instituted careful questioning among patients suffering from lobar pneumonia, and found

that as soon as the sensation of acute pain due to the accompanying pleural affection has passed off, most patients state that they feel a sense of weight or load on the affected side Reilly regards this as a valuable sign in the early diagnosis of lobar pneumonia.

United States Naval Medical Bulletin, Washington, D. C.

October

33 *Peculiar Characteristic of Spirocheta Duttoni C S Butler, U S Army
34 *Investigation of Samoan Conjunctivitis P. S Rossiter, U. S Navy
35 *Composition of Potable Water E R Noyes U S Navy
36 Elephantiasis of the Scrotum—Its Operative Cure A. M Fauntleroy, U S Navy
37 Cases of Cerebrospinal Meningitis Treated with the Flexner Jobling Serum H F. Hull, U S Navy
38 *Four Cases of Tuberculosis (Three Pulmonary and one Pulmonary and Glandular) Treated by Mercurial Injections R Hayden, U S Navy
39 Four Cases of Chronic Pancreatitis Treated by Drainage of the Gall Bladder. H. C Curl, U S Navy.
40 Lupus of the Penis: Sucessfully Treated with Tuberculin R S Langabaugh, U. S Navy.

33. **Peculiar Characteristic of Spirochetes.**—Butler, in endeavoring to keep the spirochetes in African tick fever alive and active outside the body, found that there develop on the bodies of the spirochetes, with few exceptions, small nodules generally about the mid portion of the organism, but occasionally toward one end, varying in size from 1 to 3 microns, and many of them containing one or more granules which undoubtedly took the chromatin stain (Romanowski's). The nodule is organically a part of the spirochete. The author says that if these bodies really show chromatin ducts—and it certainly seems that they do—the spirochete must be a protozoan and not a bacterium It clearly is not a spore. Microphotographs accompany the article.

34 **Samoan Conjunctivitis.**—Rossiter, thinking it unlikely that in a region where gonorrhea of the genitourinary tract is quite rare, the great frequency of a severe conjunctivitis should be attributable to that disorder, investigated the condition. He terms the prevalent type 'Samoan conjunctivitis," describing it as 'a distinct, acute infectious disease characterized by rapid onset, severe pain, photophobia, a high grade of conjunctival inflammation (soon becoming purulent), a tendency to corneal destruction over greater or less areas; and the presence in the discharge often in pure culture of its etiologic factor, a distinct micrococcus" The author holds it to be probably the *Micrococcus catarrhalis*. The various salts of silver present the best treatment.

35 **Potable Water.**—Noyes says that in works dealing with water examination and analysis, 'figures are generally given which indicate either (a) the average analysis of a large number of waters, both pure and impure, or (b) the largest quantity of the different ingredients found in waters known to be pure; or, again, it may express (c) the quantity of a substance which a pure water might reasonably be expected to contain, or it is the largest quantity which an authority deems safe, not that the substance itself is deleterious, but because an amount in excess of that given would in all probability indicate pollution" The author compiles a table giving access to such figures by recognized authorities of equal repute and from this he makes a composite, by taking the highest figures under each heading to represent what the average potable water may contain By this standard he tests nine waters of known character and origin, under which test such a composite standard breaks down; known polluted waters appearing as potable, and *vice versa*. He next investigates the significance of individual ingredients and their relation to pollution In regard to the nitrogen content, he shows that albuminoid ammonia, even in large quantity, does not of itself indicate pollution, nor does its absence insure purity; that the presence of free ammonia does not prove, and its absence does not preclude pollution; that the presence of nitrites is not positive evidence of pollution, or their absence by any means proof of purity; and that the presence or absence of nitrates gives no definite information as regards purity. He further shows that the presence of chlorin can not of itself definitely determine pollution, for while small amounts are the more common, it is not difficult to find a pure water containing a very large measure of chlorids Finally, the oxygen consuming power alone tells us nothing; for a pure water containing vegetable matter will have a high oxygen-consuming power, while an extensively polluted one may consume but little. To suggest a means of determining the quality of water, he reviews the natural course of water from the clouds to the spring, and states that, if on analysis, we find an increase in the quantity of any one or all of the nitrogenous products over that contained in the pure water from a like source in the same neighborhood from which the specimen comes, and if the chlorin remains unchanged, then the water has suffered in quality by the addition of vegetable matter, but it is not polluted If, however, there is an increase in the quantity of one or all of the nitrogenous products, and at the same time there is an increase in the chlorin, then animal matter has been added and the water is polluted and dangerous As is apparent, such a method for determining purity requires a complete sanitary analysis

38. **Mercurial Injections in Tuberculosis.**—Hayden reports four of the most encouraging cases of treatment of advanced tuberculosis by hypodermic mercurial injections, as recommended by Wright. In one case there were advanced tuberculous lesions of both lungs when the mercurial treatment was begun The patient had been given up, not only by his relatives and friends, but also by the hospital staff. He was bedridden, and the attending physician expected his death within a month; yet within two months all his symptoms had disappeared, he was able to walk around by himself, although 83 years of age, and had gained 33 pounds He is now presumably well and Hayden expects him so to continue.

Journal of Abnormal Psychology, Boston.

August September

41 *Sane Prototypes of Insane Mental Processes T H Kellogg, New York
42 Clinical Use of Hypnoidization in Treatment of Some Functional Psychoses J E Donley, Providence, R I
43 *Rationalization in Everyday Life E Jones
44 Experimental Study of Sleep B Sidis, Brookline, Mass

41. Abstracted in THE JOURNAL, July 11, 1908, p. 163.

43 **Rationalization in Every-Day Life.**—From Freud's researches, Jones says, comes the demonstration that a number of mental processes in a normal person owe their origin to causes unknown to and unsuspected by the individual The importance of feeling in the moulding of judgments, beliefs and conduct, has for centuries been recognized by poets and writers, but allotted by academic psychology a very subordinate position in regard to the intellectual processes. Not only are the causes of these mental processes frequently unsuspected by the individual, but they are repudiated and denied when the mere existence of them is suggested. The concealment mechanism may be studied in two ways: 1. The known feeling processes may be traced from their origin to the changed form in which they appear in consciousness and their effect on associated mental processes thus observed; or 2, a given mental process may be analyzed and its causes traced back to their elementary sources While these mechanisms are numerous and complex, they may be grouped into two great classes, according to whether the individual is willing to offer an explanation as to the origin of the terminal mental process or not. Inquiry is stopped in either case, because in the one case he already has an explanation; in the other, he thinks one does not exist, and considers the given mental process self explanatory and inquiry as to its origin absurd, unnecessary and fruitless We may conclude that whenever an individual considers a given process too obvious to admit of investigation into its origin, and shows resistance to such an investigation, we are right in suspecting that the actual origin is concealed from him, almost certainly on account of its inacceptable nature. This criterion applies to an enormous number of our fixed beliefs—religious, ethical, political and hygienic—as well as to a great part of our daily conduct. Yet if such beliefs and conducts are to be brought into scientific harmony, it is important that the mechanism controlling them should be made the subject of precise study. In regard to the first class, where the individual proffers an

explanation, but a false one, it is only another aspect of the necessity every one feels to have what may be called a theory of life, particularly a theory of himself. No man admits that he deliberately performs irrational acts. Any act that might appear such is justified by distorting the mental processes concerned and providing a false explanation that has a plausible ring of rationality. Two different groups of false explanations occur, according as they are formed essentially for oneself, or in special reference to the opinions of one's circle. The author's purpose has been to illustrate from what diverse sides Professor Freud's principle may be supported, and to indicate the vast field over which it yet remains to be applied. We are beginning to see man not as the smooth self-acting agent he pretends to be, but as he really is, a creature only dimly conscious of the various influences that mould his thought and action, and blindly resisting with all the means at his command the forces that are making for a higher and fuller consciousness.

Yale Medical Journal, New Haven, Conn.

November.

45 Early Diagnosis of Pulmonary Tuberculosis. W. B. Bartlett, Hartford.
46 Home and the Sanatorium Treatment of Tuberculosis. D. R. Lyman, Wallingford, Conn.
47 Surgical Aspects of Tuberculosis, Especially Bone Tuberculosis. A. G. Cook, Hartford, Conn.
48 *General Pathologic Conditions Occurring with Uterine Fibroid. H. G. Anderson, Waterbury.
49 *Bier's Treatment by Hyperemia. A. M. Rowley, Hartford.
50 Gastrojejunostomy: Its Development, Conditions to which it is Applicable, and Its Results. E. W. Smith, Meriden.

48, 49. Abstracted in The Journal, July 25, 1908, p. 338.

Journal Oklahoma State Medical Association, Guthrie.

November.

51 *Railway Sanitation. J. H. Stolper, Krebs.
52 Sanitary Power as a Police Power of the State. R. L. Williams.
53 United States Public Health and Marine-Hospital Service. S. B. Warren, U. S. P. H. and M.-H. Service.
54 Ists and Isms. C. P. Brown, Chickasha, Okla.

51. **Railway Sanitation.**—Stolper reports results of an extensive and systematic study of railway sanitation. His investigations are based on a personal acquaintance with sanitary conditions of every railroad in the United States, Mexico, Canada and many countries in Europe; a personal knowledge, due to personal discussions with them of the attitude of every president and vice-president and most general managers of railways in the United States, and many years of careful study of the whole subject, in which he secured the cooperation of every railroad in the United States. He studied the following four questions:

1. What is the existing sanitary state of steam and street cars and depots?
2. What share, if any, have railways in the spread of disease?
3. Sufficiency or insufficiency of sanitary legislation?
4. Who is responsible for existing sanitary conditions on railways?

To answer these questions every railroad on the North American continent, except Alaska, was personally inspected by Stolper, in reference to (a) conditions of depots and passenger cars, dining rooms, lunch counters and dining cars; (b) facilities for cleaning and cost of cleaning equipment; (c) regulations to enforce sanitation adopted by each individual railroad company. His findings are as follows:

1. The sanitary conditions existing on steam and electric street railways and depots are bad.
2. What share, if any, railways have in the spread of disease, can be answered only problematically, for there is no definite way of collecting statistical data.
3. Specific sanitary regulations and legislation have so far been enacted in very few states. The leader of such states is Texas, followed by Wisconsin, Minnesota, Kentucky, and a few others, but while the majority of states have no specific sanitary legislation, every state board of health has the power to enforce sanitation on railways under and within the general police of the state.
4. The responsibility for the bad sanitary conditions on our railways rests primarily with the traveling public; secondarily with our public authorities, especially boards of health and police officers.

He considers the following points as of material importance in promoting sanitary conditions on American railways:

1. Abolition of the drinking cup.
2. Screening of all windows and doors of railroad cars.
3. Abolition of through car service: no passenger car should be in use longer than twelve hours.
4. Trains going through San Antonio, Texas, Arizona, New Mexico, Southern California and in the Carolinas and all other health resorts should carry Pullman cars of the Canadian Pacific type.
5. Water tanks to be made of the Chicago, Burlington & Quincy type.
6. All floors to be covered with non-absorbable paint.
7. Handling of ice for ice water with steel tongs, by a man wearing clean rubber gloves, the ice being washed by a stream of water from a hose.
8. A medical sanitary officer, especially trained in sanitation, who should be in charge of the cleaning of all railroad cars and all sanitary matters, on each railroad line, and who should report directly to the head of the operating department, preferably to the president of the road.
9. Supervision of the sources of the water and ice supply by the sanitary officers above described.
10. Abolition of the use of silk, wool or plush from railroad and Pullman cars.
11. Placing of the inner doors in cars at a different angle from the outside door, so that the cold air would not reach the sleeping passengers at night.
12. The train porter should have no other duties but to look after the physical cleanliness of the train, and should be a brakeman.
13. Adoption of a system of heating which could be regulated by passengers and not have to depend on busy train crews.
14. Also of a system of ventilation that would keep out the coal smoke and gases from the cars while in trains.
15. Every car should be disinfected with formaldehyde gas in the presence of ample moisture.
16. The toilet rooms should be enlarged, especially for women, on Pullman cars.
17. Every railroad company should operate its own sleeping cars, and the cost of sleeping car accommodations should not be above what such service would cost at hotels.

Western Medical Review, Omaha, Neb.

November.

55 *Dilatation of the Stomach. H. L. Akin, Omaha.
56 Diagnosis. W. F. Conwell, Neligh, Neb.
57 Deviations of the Septum. W. R. Hobbs, Omaha.
58 Some Difficult, Complicated Confinement Cases. J. R. Gilbert, Morrill.

55. Abstracted in The Journal, July 4, 1908, p. 66.

Therapeutic Gazette, Detroit.

November.

59 Local Use of Acetyl-Salicylic Acid (Aspirin) in Follicular Tonsillitis. G. Fetterolf, Philadelphia.
60 Cactus Grandiflorus as a Cardiac Remedy. R. G. Curtin, Philadelphia.
61 New Method of Closing the Abdominal Wound After the "Gridiron" Operation Without Using Buried Sutures, by Means of Two Crossed Sutures of Silkworm Gut. G. Torrance, Atlanta, Ga.
62 *Untoward Effects Following the Use of Maragliano's Serum. H. R. M. Landis, Philadelphia.
63 *Therapeutic Action of Mineral Waters. R. Weiss, London, England.
64 Treatment of Acute Infections by Sodium Nucleinate. D. T. Lainé, Havana, Cuba.

62. Abstracted in The Journal, Oct. 17, 1908, p. 1360.

63. **Mineral Waters.**—Weiss discusses the physical, chemical and therapeutic properties of mineral waters. The observed fact, that carbonic acid gas escapes far more slowly from the water of natural acidulous springs than from artificial waters, is supposed to be due to the presence in natural waters of bodies capable of hypersaturating themselves with carbon dioxid, called "catalisatories." Possessing no intrinsic chemical properties themselves, they are capable of materially assisting extrinsic chemical reactions occurring in the same solution. One 360,000th of a milligram of platinum will promote decomposition of 1 c.c. of hydrogen peroxid. These energies are comparable to those of the enzymes in plant life, the elucidation of which has been greatly promoted of late by a comparison of synthetic with natural processes. Excellent results have been obtained with simple means. Weiss urges the submission of these catalisatories to careful and accurate investigation.

Denver Medical Times and Utah Medical Journal.

November.

65 Nose, Throat and Ear Complications of Infectious Diseases. T. E. Carmody, Denver.
66 Eyestrain. E. W. Fox, Trinidad, Colo.
67 *What Schedule of Documentary Evidence Should be Accepted as Evidence of Qualification to Practice Medicine? S. D. Van Meter, Denver.
68 Tuberculous Faucial Tonsil. G. B. Sweeny, Pittsburg, Pa.
69 *Some Industrial Evils. C. G. West, Salina, Utah.
70 **Dementia Præcox.* R. L. Gillespie, Portland, Ore.*

67. Abstracted in The Journal, June 20, 1908, p. 2098.

69. **Industrial Evils.**—West discusses, from a socialistic viewpoint, the evils incidental to the evolution of society, with particular reference to the physical well-being of the people.

70. **Dementia Præcox.**—Gillespie pleads for a uniform nomenclature in mental diseases. Dementia præcox, if used as a class or type name, is expressive in so far as it designates a deterioration process; but the term should be carefully restricted to those cases in which mental deterioration at an early stage of the disease is clearly recognizable and should be carefully considered and possibly avoided in cases in which a dementia may possibly be developed.

Pennsylvania Medical Journal, Athens.

November.

71 *Nature of Carcinoma in General and the Early Diagnosis of Gastric Carcinoma. J. M. Anders, Philadelphia.
72 Reflex Neuroses Arising from Ocular and Nasal Abnormalities. S. L. Ziegler, Philadelphia.
73 *Surgical Treatment of Gastroptosis. E. Laplace, Philadelphia.
74 *Prevention, by Operation and Other Methods, of Retroversions of the Uterus After Childbirth. E. P. Davis, Philadelphia.
75 Fistula-in-Ano. W. M. Beach, Pittsburg.
76 Operative Treatment of Internal Hemorrhoids: Including After-Treatment as well as the Sequelæ which Occasionally Ensue. L. H. Adler, Philadelphia.
77 Case of Uterine Adenoma Malignum with Vaginal Implantation, Eleven Years after Operation. G. E. Shoemaker, Philadelphia.
78 *Nasal Respiration: Its Relation to General Disease. G. R. S. Corson, Pottsville.
79 *Medical Journals and Publication of Society Papers. O. H. Allis, Philadelphia.
80 A Few of Dickens' Doctors and Things Medical. T. R. Currie, Philadelphia.
81 Case of Hydrophobia. G. A. Stock, Danville.
82 Massachusetts State Hospital for Inebriates and Dipsomaniacs. R. A. Woods, Boston.

71. Abstracted in THE JOURNAL, Oct. 31, 1908, p. 1451.

73. **Gastroptosis.**—Laplace says that the nutrition of tissue forms the basis of physiologic equilibrium, the disturbance of which results in altered tissue resistance. Perfect nutrition maintains the ligaments in proper tonicity, while imperfect nutrition weakens them and allows the weight to be sustained by them to stretch them beyond endurance. Beyea's operation of shortening the ligaments by free rows of interrupted sutures is a good one in immediate results, but its later effects are bad; so Laplace endeavored to improve on the method by supporting the stomach in a normal position from above and below. He devised as an adjunct to Beyea's operation a method of suturing the gastrocolic omentum to the anterior abdominal wall by a continuous catgut suture, after gently scarifying the surfaces to be brought into apposition. The stomach is thus supported from below.

74. **Prevention of Retroversion of the Uterus After Childbirth.**—Davis says that congenital retroversions and those arising from lack of developments are difficult to correct after childbirth. It is important that labor be so conducted that overdistention of the ligaments and fascia, which maintain the uterus in its accustomed position, shall be avoided. Deep lacerations of the cervix and vagina extending into the fascia should be repaired immediately. Lacerations near the utero-sacral ligaments are especially important. During the first forty-eight hours after labor the uterus should be maintained in position by gauze packing. During the puerperal period the patient should change her posture frequently, avoiding lying long on the back. Patients should not get up too early after childbirth. After the lochial discharge has ceased, the knee-chest posture, night and morning, will greatly aid in restoring the uterus to its proper position. When there is a disposition to retroversion the patient should wear a pessary as soon as she begins to get up. Such patients should be kept under observation for several months at least. When the uterus does not assume its normal position and maintain it, intraperitoneal shortening of the round ligament by Gilliam's method should be performed.

78. Abstracted in THE JOURNAL, Oct. 24, 1908, p. 1456.

79. Abstracted in THE JOURNAL, Oct. 17, 1908, p. 1357.

Kentucky Medical Journal, Bowling Green.

November.

83 *Preparation for a Normal Labor. S. L. Beard, Shelbyville.
84 Preparation of Patient for Normal Labor. J. M. Peck, Arlington.
85 Antepartum and postpartum Hemorrhage. E. Alcorn, Hustonville.
86 *Puerperal Eclampsia. J. M. Peck, Arlington.
87 *Management of Occipito-Posterior Positions. H. B. Ritter, Louisville.
88 *Hysteria. M. Board, Louisville.
89 *Multiple Neuritis. G. P. Sprague, Lexington.
90 *Occupational Neuroses. J. J. Moren, Louisville.
91 *Diet and Hygiene of Children from 2 to 6 Years of Age. P. H. Barbour, Louisville.
92 *Comparative Dosage in Children. A. O. Sisk, Earlington.
93 *General Symptomatology of Diseases in Childhood. R. B. Gilbert, Louisville.
94 *Relation of Rachitis and Osteomalacia. C. B. Creech, Middlesburg.
95 *High Arterial Tension. H. H. Roberts, Lexington.
96 *Dilatation of the Heart. C. G. Daugherty, Paris.
97 *Angina Pectoris and Pseudoangina. W. F. Boggess, Louisville.
98 Summer Complaint. I. T. Townes, Madisonville.
99 Opsonic Therapy. H. J. Farbach, Louisville.
100 Peculiarities of the Anatomy of Infants. R. B. Gilbert.

83, 86, 87. Abstracted in THE JOURNAL, Oct. 17, 1908, p. 1353.

88, 89, 90, 91, 92, 93, 94. Abstracted in THE JOURNAL, Oct. 24, 1908, pp. 1453, 1454.

95, 96, 97. Abstracted in THE JOURNAL, October 31, p. 1544.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

November 21.

1 *Pathology and Treatment of Diabetes Mellitus, Viewed by the Light of Present-Day Knowledge. F. W. Pavy.
2 *Heredity in Diseases of the Nervous System. Sir W. R. Gowers.
3 *Heredity in Cancer. E. F. Bashford.
4 Influence of Heredity on Tuberculosis. A. Latham.
5 Vicious Circles Associated with Disorders of the Digestive System. J. B. Hurry.
6 Multiple Vesical Calculi. W. J. Maloney.
7 Diagnosis and Treatment of Pancreatitis. D. C. Watson.

1. **Diabetes.**—Pavy reviews the growth of the evolution of our knowledge of diabetes, and concludes that everything points to the existence of a missing link in the chain of events thus far reckoned to occur in connection with the passage of carbohydrate from the seat of absorption in the walls of the alimentary canal to that of utilization in the tissues.

2. **Heredity in Nervous Diseases.**—Gowers holds that the scientific study of heredity can not be applied fully to the diseases of man, for the human race is not open to Mendel's essential methods, and its mere complexity of development involves innumerable differences from lower forms of life, the effects of which may be greater than we can realize. In diseases that are merely in, not of, the nervous system—tumors, defective developments, etc.—though heredity may be held likely, it can not be directly connected with them. Sudden cerebral seizures, etc., depend on causes that take their heredity far from the brain in which the lesion occurs, yet the frequency with which heredity is active is notable. A class of diseases in which heredity is potent is those which consist of deranged chemical processes in the vital laboratory of the human frame giving rise to endogenous toxins, e. g., diabetes. Diseases of the nervous system in which the influence of heredity is marked seem to fall in certain classes. 1. The early "abiotrophies," a term applied by Gowers to cases in which certain systems of structure in the nervous or muscular system have an essential defect of vital endurance in consequence of which life slowly fails. He instances baldness, hereditary ataxia, pseudohypertrophic paralysis, hereditary nerve atrophy, etc., and cites illustrative cases. In this class the heredity is maternal only. The tendency is thus germinal. The female children seldom suffer in the typical form, but they inherit the tendency and their sons are prone to suffer. In the ova from which the daughters develop, the potentiality of the disease is only in that portion of the protoplasm which will become the germinal tissue for another generation. Gowers says that if the tendency is thus fixed in the germ tissue, and differently fixed, according to resulting sex, does not the fact make it probable that the sex is also predetermined? 2. This class may include hereditary maladies, which begin later in life after the period of growth is over. They present persistent disturbance of function and are commonly hereditary, but from either side. As instances, are mentioned heredo-ataxia of Marie, Huntington's chorea and Thomsen's disease. 3. Heredity is operative in many functional affections, e. g., hysteria and neurasthenia, also in epilepsy and insanity. He excludes from consideration epilepsies

that result solely from organic lesions of the brain, from disease, or trauma, or difficult birth, as not concerned with heredity. He has always acted on the belief that the tendency to convulsion in such acquired cases is not transmissible, and he has never hesitated to permit the marriage of a sufferer and has never had any evidence that he was wrong in doing so. He points out the effects of ignorance and the fact that a supposed stigma often leads to concealment, to show the difficulties of ascertaining the facts of family histories. He discusses the statistics of 2,400 cases of epilepsy in which heredity was ascertained in 39 per cent. of 1,993 males and 43 per cent of 1,207 females.

3 **Heredity in Cancer.**—Bashford prefaces his consideration by pointing out that in recent years a great deal of new evidence has been accumulated in support of the view that a malignant new growth contains nothing foreign to the organism attacked. He instances two classes of new facts 1. Carcinoma and sarcoma can be grown continuously only in other individuals of the same species of animals. 2. Investigations into questions of metabolism have shown that the relations of a malignant new growth to its host are merely those of nutrition—of the demand for and the supply of the normal foodstuffs from which tissue is built up and analogous to those obtaining between fetus and mother. He discusses reports rendered to the Imperial Cancer Research Fund during 1906 and 1907 on 2,932 patients suffering from malignant new growths, in which the clinical diagnosis was confirmed by microscopic examination; and concludes that "with nothing but negative evidence of the part played by inherited constitutional conditions before us, and with positive evidence of the important part acquired constitutional conditions can play in furthering the growth, perhaps the development, of cancer, we shall more profitably spend our time if we frankly seek to ascertain how they are acquired, than if we continue to preach the doctrine that they are inherited and that it is hopeless to contend against them."

British Medical Journal, London.

November 21

8 Induced Hyperemia as a Means of Treatment Sir W Bennett
9 *Early Diagnosis of Organic Disease of the Nervous System. T R Bradshaw
10 *Recent Theories and Experiments on Heredity and Inheritance H Drinkwater
11 *Heredity in Diseases of the Nervous System Sir W Gowers
12 Two Cases of Uterine Fibroids Showing Peritheliomatous Changes: Long Immunity from Recurrence After Operation. A H G Doran and C Lockyear.
13 Solid Fibroid of Ovary Obstructing Delivery J Stewart
14 Abdominal Hysterectomy for Cancer of the Cervix and Its Immediate Mortality T B Henderson
15 *Account of an Epidemic of Enteritis Caused by the "Liverpool Virus" Rat Poison* L Handson, H Williams and E Klein
16 *Specific Skin Eruption in Pneumonia F M Pope
17 *Pelvic Pathology and Sea Sickness G V Elder
18 New Method of Administrating Nitrous Oxid for Prolonging Anesthesia in Dental Operations F Trewby and A Dinnis

9 **Organic Nervous Disease.** Bradshaw considers the various aids to the diagnosis of organic nervous disease. As to knee jerk, the real problem in his experience lies in making sure of its absence and not in the interpretation of it. Briskness of knee jerks, as an isolated phenomenon, is rarely of serious moment. Ankle clonus, if sustained, always means organic disease, and may be the only positive indication of it. Absence of the knee jerk, being never due to hysteria or other functional disease, must always be looked on with grave suspicion. Bradshaw believes *that if the knee jerks* can be obtained we may assure the patient with great confidence that he has not locomotor ataxia. Of ocular signs, inequality of the pupils may be normal to the individual. It may, also, he thinks, be a manifestation of uremia. In estimating diplopia we must remember that there is a so-called rheumatic neuritis of the sixth nerve which will be recovered from. Nystagmus suggests organic disease and may indicate disseminated sclerosis in apparently mere hysteria. He regards as true nystagmus only rhythmical and continuous movements elicited without excessive forced deviation of the eyes. It is seldom safe to diagnose locomotor ataxia or general paralysis in the absence of the Argyll Robertson pupil, but this must not be given undue weight; Bradshaw has recently had two patients with this condition without any other indications of organic nervous disease. He further considers bladder troubles, which are so common in individuals with nervous disease, persistent frequency of the pulse in locomotor ataxia, and the so called visceral crises of tabes.

10. **Heredity.**—Drinkwater briefly reviews the theories of heredity and summarizes Mendel's theory. With regard to the inheritance of acquired characters, he holds that the subject is not absolutely settled, but that the most definite facts and precise experimental investigations favor the contrary views of Weismann. Mendel's work is absolutely in favor of Weismann. He discusses DeVries' views of variation, and submits that the various facts that he has mentioned point out with unmistakable clearness the only way by which hereditary disease can be eliminated. We hear about physical deterioration, and great benefit is expected from education and improved sanitary conditions; but neither education nor sanitary laws can eradicate hereditary disease, except by preventing the marriage of affected individuals. Just as a purely brachydactylous race might be produced, so it would be equally easy to eradicate this abnormality by preventing the marriage of the abnormal individuals, and there is little doubt that other hereditary defects and diseases can be practically made to disappear by the same means. Unfortunately, modern legislation tends to the opposite effect, for everything is done to encourage not only the marriage, but the early marriage, of inferior members of the community, while the burdens of taxation retard more and more the marriage of the middle classes. Free education, free meals, free clothing, are all very well for a certain class, but they are not remedies, and the net result to the nation in the long run will be detrimental.

11 See Abstract No 2.

16. **Specific Eruption in Pneumonia.**—Pope records a case of pneumonia in which a crop of papules was observed on the upper part of the back. They were deep rose color, circular, from three to four millimeters in diameter, darker than the average typhoid spot, and disappeared completely on pressure. In three days the first crop faded and a second crop appeared. In another three days they became pustular. Examination of pus showed pneumococci only. The resemblance to smallpox is commented on, though no vesicular stage was noted.

17 **Seasickness.**—Elder reports a case to emphasize the importance of not overlooking extraneous *causes, especially* unsuspected pelvic conditions in women in dealing with seasickness.

Medical Press and Circular, London.

November 18

19 Influence of Diathesis on the Causation and Treatment of Diseases of the Eye A M Ramsay
20 Latent Persistence and the Reactivation of Pathogenic Bacteria in the Body L S Dudgeon
21 Chronic Colitis G R Mill

Clinical Journal, London.

November 18

22 Case of Ankylostomiasis Sir D Duckworth
23 Employers' Liability for Injury or Illness F M Sandwith
24 Procidentia Uteri E S. Bishop

Journal of Hygiene, London.

September

25 *Experiments on Influence of Fatness on Susceptibility to Caisson Disease A E Boycott and G C C Damant
26 *Abnormal Reactions to Horse Serum in the Serum Treatment of Cerebrospinal Fever J R Currie
27 *Cause of Lead Poisoning in the Tinning of Metals G F Duckering
28 *Drinking Water on Steamships M A Ruffer and J G Willmore
29 Experiments on Immunity Against Vaccinia in Animals A. B Green
30 Influence of Temperature and Other Physical Conditions on Calf Vaccine A B Green
31 Variation of the Rate of Disinfection with Charge in the Concentration of the Disinfectant H E Watson
32 Bacteriologic Observations on Colon Bacilli Infecting the Urinary Tract, Especially Colon Bacilli of the Anaerogenes Class W J Wilson

25 **Fatness and Caisson Disease.**—Boycott and Damant record elaborate experimental studies by which they are led to conclude that fatness increases the susceptibility to death from

Caisson disease. The practical conclusions are clear. Really fat men should never be allowed to work in compressed air, and plump men should be excluded from high pressure caissons (e. g., over + 25 pounds), or in diving more than about 10 fathoms, and at this depth the time of their exposure should be curtailed. If deep diving is to be undertaken, or caissons worked at pressure approximating to + 45 pounds, thin men should be selected. It is unfortunate that an increase of experience and skill in technical operations should so often be associated with the increase in waist measurement which accompanies the onset of middle life. Middle-aged men have a lower rate of respiratory exchange than young men; if fatness is not the explanation of this, they are at a double disadvantage, and the two factors must be multiplied, rather than added, together.

26. **Abnormal Reaction to Horse Serum.**—On the basis of 50 cases of cerebrospinal fever treated with four different curative sera, all derived from the horse, Currie finds that:

> The total volume of serum given did not affect the frequency of abnormal reactions
> The total number of injections of serum, in certain cases, may have been a factor in inducing abnormal reactions
> The interval of time between the injections concerned was the primary influence in determining abnormal reactions
> It was not apparent that a preceding normal reaction predisposed to a subsequent abnormal reaction
> It was not apparent that a large administration of serum within the latent period predisposed to a subsequent abnormal reaction

27. **Lead Poisoning.**—Duckering, an inspector of factories, summarizes the investigation of Miss Anderson and Dr. Legg into the conditions of labor in the coating of metal articles with lead or tin. The process is described, and the trades affected are enumerated, statistics of lead poisoning being appended. It is found that inhalation is the principal source of trouble and that long continued absorption of small quantities of lead is a much more important factor than the amount of the dose in causing lead poisoning. The vapor of lead chlorid is continually given up from the tinned article for some time after its removal from the bath.

28. **Drinking Water and Steamships.**—Ruffer and Willmore give a short account of: 1, the laws concerning the supply of drinking water to ships in some of the chief civilized countries of the world; 2, the result of bacteriologic examination of the water on 62 steamships; 3, the chief deficiences in supply and storage which have come under their notice; and 4, the reforms which they consider urgently necessary. They make the following recommendations:

1. Ships should be allowed to take water only in places licensed by the medical officer of the port.
2. The hoses, pumps, water boats, etc., should be the property of the port sanitary authorities, who would then be responsible for the proper storing and cleaning of such apparatus. Should this be impossible, no apparatus or water tank should be used until it has been examined and declared satisfactory by the said authority. All the apparatus should be examined and tested once a month.
3. Intake pipes flush with the deck should be absolutely prohibited. They should be replaced by upright iron pipes, three feet high, of standard gauge, having their free ends bent downward and fitted with screw cap chained to the pipe. When in use the cap should be removed and the hose screwed on. Some simple device would indicate when the tank was full.
4. All water tanks on board ships should be made of iron, and coated inside with cement.
5. All water tanks should be placed so as to allow inspection at any time during the voyage.
6. All water tanks should be so closed as to avoid all chances of contamination during the voyage.
7. All water tanks should be fitted with ventilating pipes which should be carried up to a sufficient height to prevent contamination.
8. One or more taps should be placed through the floor of tanks to insure the latter being completely emptied at regular intervals. The tanks should be constructed with "round" corners," the floor of the tanks should be sloping toward the taps used for emptying the tanks.
9. The tanks should be completely emptied and disinfected after each voyage. The methods used at present for this purpose are extremely unsatisfactory. Some form of gaseous disinfection would probably give the best results.
10. In order to insure these rules being carried out, an international agreement is necessary.

Indian Medical Gazette, Calcutta.

October

33 *Treatment of Immature Cataract. H. Smith.
34 Pyorrhea Alveolaris; from a Tropical Standpoint. C. F. Badcock.
35 Spirochetosis in Southern Arabia and the Morphology of the Parasite. R. M. Carter.
36 *Value of Taking the Specific Gravity of the Blood During Saline Transfusion in Cholera. F. J. O'Meara.
37 Treatment of Uncomplicated Lobar Pneumonia. G. M. Smith.
38 *Treatment of Smallpox by Large Doses of Hydrargyrum Cum Creta. V. B. Nesfield.

33. **Immature Cataract.**—From a consideration of his experience in 20,000 cataract extractions, Smith considers:

1. Extraction of immature cataract by the capsulotomy method is hardly justifiable.
2. Ripening procedures are either unsatisfactory or dangerous.
3. To wait for Nature's maturing process is highly unsatisfactory and detrimental to the patient.

His treatment of immature cataract, which he regards as the procedure of the future, and which will make mature senile cataract a much rarer condition than it is at present, is extraction of the lens in its capsule. He describes the method he follows.

36. **Saline Transfusion in Cholera.**—O'Meara urges that more accurate and better results can be obtained during intravenous injection of salt solution in cholera by examination of the specific gravity of the blood, rather than by observation on the blood pressure, for the following reasons:

1. The whole treatment of the disease turns on the increased specific gravity of the blood.
2. An enormous quantity of saline solution may be transferred into the vessels without any marked rise of blood pressure.
3. The peripheral resistance is much increased in cholera, not only by changes in the endothelium of the vessels, but by chemical changes in the blood diminution of oxygen, etc., even independently of the increased specific gravity.
4. The blood pressure in cholera is liable to sudden and considerable variations apart from transfusion, which he is unable to explain.
5. The blood in cholera being deficient both in water and salts, transfusion may temporarily raise the blood pressure with fluid without increasing the specific gravity with salts.
6. By transfusion, gradually regulated by taking the specific gravity, the renal epithelium has a much better chance of recovering its function, and therefore the present large mortality from uremia will be considerably reduced, if not abolished. The most rapid and convenient method for ascertaining the specific gravity of the blood in cholera is that of Hammerschlag, which he describes.

38. **Smallpox.**—The striking resemblance between acute secondary syphilis, as witnessed in India, and smallpox, led Nesfield to employ mercury in the latter disease. He draws the following conclusions from his experience:

1. Ten grains of hydrargyrum cum creta, three times a day by mouth, continued for six days, produces no symptoms of poisoning in smallpox (with natives).

2. The drug appears to have a marked action in modifying and reducing the severity of the disease.

Intercolonial Medical Journal of Australasia, Melbourne.

October

39 Surgical Tuberculosis. B. Poulton.
40 *Abscess Between the Iliopsoas Muscle and the Head of the Femur. R. H. Russell.
41 Treatment of Urethral Stricture. A. Morris.

40. **Iliopsoas Abscess.**—Russell says that the difficulty and obscurity that frequently besets the diagnosis of hip-joint disease is due to the fact that that term covers a group of affections. He describes a syndrome which, in his experience, invariably has been associated with a tuberculous focus in the head of the bone that has opened into and infected the bursa lying beneath the iliopsoas muscle. The position assumed by the affected limb when the child is laid on its back is one of flexion combined with abduction and eversion; in addition, the patient invariably grasps the thigh firmly with the hand of the same side. Russell has never yet been mistaken in diagnosing suppuration of the bursa beneath the iliopsoas on sight in this condition. The explanation is that the iliopsoas is relaxed by the position of flexion, eversion and abduction, but the tendency of the limb to fall outward will have a contrary effect: the patient therefore grasps the thigh to support it and to counteract the tendency produced by gravity.

Annales de Médecine et Chirurgie Infantiles, Paris.

November 1, XII, No. 21, pp. 721-756.

44 *Functional Kidney Tests in Children. (Élimination rénale provoquée chez l'enfant.) E. Gaujoux.
45 *Nasopharyngeal Origin of Chorea. L. de Ponthière.

44. **Functional Tests of the Kidneys in Children.**—Gaujoux has applied the methylene blue test of kidney functioning in six healthy children between 10 and 14, in eight with recent acute nephritis, and in two with intermittent albuminuria. He used a solution of 1 gm. of the stain in 20 gm. of water, injecting 1 c.c. of the solution in the side of the thigh. The

findings are tabulated and the harmlessness of the test reiterated. It is especially useful to determine whether a nephritis has completely subsided or there still is latent trouble, after the albumin has disappeared from the urine.

45. **Nasopharyngeal Origin of Chorea.**—Ponthière found that a severe chorea in a girl of 9 subsided at once after treatment of inflamed tonsils and adenoids. This occurred twelve years ago, and since then he has frequently found indications for local treatment of the throat in cases of chorea, and invariably the effect was most striking in the prompt subsidence of the chorea. The nasopharynx is the source for infection of various kinds, especially *for the rheumatism infection and for chorea* Enlarged tonsils and adenoids do not always become infected, *and the infection may be of varying virulence and the soil of varying receptiveness*, but the influence on the chorea of suitable treatment of the throat and nose will convince the most skeptical, he says, of the unmistakable connection between them.

Archives Générales de Chirurgie, Paris.

October, II, No 10, pp 337 444

46 *Treatment of Operative Pneumothorax in Sound Pleura C Liné
47 Hemorrhoids in Children (Les hémorroïdes chez l'enfant) D G Zesas
48 Stenosis of Intestine Secondary to Strangulated Hernia Mauclaire and Levant

46. **Treatment of Operative Pneumothorax.**—The experiences on record teach that the danger is not so much from the pneumothorax itself as from the possibility of infection. The *pneumothorax rarely proves immediately fatal; there is an* interval of from a few days to three weeks before the patient succumbs, and death is then the result of infection. The pleura reacts to irritation with an effusion, the peritoneum by the formation of adhesions, favored by the frequent points of contact between the intestines and the peritoneum In pneumothorax the lung collapses and one sheet of the pleura retracts with it, leaving a space wider than usual between the two layers, with no points of contact to favor production of adhesions. Every effort should be made, therefore, to avoid infection, and to ward off trouble from this source. Liné gives the details of 25 cases, including several hitherto unreported, all showing that even a total pneumothorax causes no serious disturbances if it occurs slowly and gradually, and if the other lung is working well. He thinks that there is no need for apparatus to induce intrapulmonary positive pressure, as the operation can be done without any such aid, relying on tamponing the pleura during the course of the intervention, artificial respiration as needed, and "harpooning" if alarming symptoms develop If infection occurs and the temperature rises ever so slightly, no time should be wasted in conjectures, but the pleura should be drained at once by resection of a rib and possibly rinsed out There was only one fatality in the 25 cases reported, and the pneumothorax was not responsible for this. Bardesco left the pleural cavity open while removing a sarcoma of the ribs, but the dyspnea and suffocation were slight at the time and later, and all signs of the pneumothorax had disappeared in twenty-five days Delagenière purposely induced a pneumothorax to arrest the hemorrhage in the lung after a bullet wound in the apex, bleeding freely into the air passages. He allowed the air to enter the pleural cavity very gradually and none of the symptoms was aggravated The expectoration of blood decreased and the pulse became stronger. The hemorrhage was definitely *arrested and the patient soon recovered.*

Presse Médicale, Paris.

November 14, XVI, No 92, pp 729 744

49 Ferments of the Digestive Canal Roger
50 Yellow Fever (La fièvre jaune) E Brumpt.

November 18, No 93, pp 745 752

51 *Digestive Disturbances in Rachitis (Troubles digestifs dans le rachitisme) A B Marfan

51. **Digestive Disturbances in Rachitis.**—Marfan has studied for several years the digestive conditions in children with rachitis and in those who develop it later, both in private and hospital practice. The prodromal or initial disturbances are a recurring catarrhal gastroenteritis or a spasmodic dyspepsia with repeated vomiting. The form observed in confirmed rachitis is a dyspepsia from atony with distended, flabby abdomen. Bottle feeding alone is unable to induce rachitis; it is merely a predisposing factor. The real causes of rachitis are chronic infections or intoxications—in the widest sense—occurring at a certain phase of ossification and blood production. This phase extends from the last months of intrauterine existence to the end of the second year. It is during this time that the modifications of the bone marrow resulting from these infections or intoxications interfere with the normal formation and growth of the bone tissue In studying the antecedents of a rachitic child it is only exceptionally that some infection or chronic intoxication is not discovered during this period. The most common are chronic or *recurring digestive toxi infections, prolonged* or recurring bronchopneumonia, multiple and recurring subcutaneous abscesses or prolonged suppuration of eczematous surfaces, and inherited syphilis. These factors act most powerfully on a *predisposed soil, and bottle feeding*, especially when it has been used from birth, and heredity, are the most effectual of the predisposing agents. Subordinate to these are the factors of dampness in the home and deprivation of air and light

Revue de Chirurgie, Paris.

November, XXVIII, No 11, pp 551 672

52 Transactions of the Twenty first French Surgical Congress

Semaine Médicale, Paris.

November 18, XXVIII, No 47, pp 553 564

53 *Treatment of Chorea by Intraspinal Injections of Magnesium Sulphate (*Traitement de la chorée de Sydenham par les injections intra arachnoïdiennes de sulfate de magnésie)* G Marinesco

53. **Treatment of Chorea by Intraspinal Injections of Magnesium Sulphate.**—Marinesco reports four cases of severe chorea in which the duration of the affection was shortened and there has been no recurrence since the treatment, which was by intraspinal injection of 3.5 c c of a 25 per cent solution of magnesium sulphate. The patients were girls between 12 and 22 years old, and the sedative action of the drug was apparent in a few hours, the symptoms subsiding completely in some, but requiring a second injection in the others Slight by effects were noted, but they were transient in all, and in the forty cases on record in which the magnesium sulphate has been administered in intraspinal injections apnea was observed only in one case, and it was brief and transient The *tendency to headache and pain in the limbs after the injection* can be reduced by a preliminary injection of morphin. *In future he intends to use an isotonic solution,* that is one with a freezing point at 0.56 below zero C He thinks that *this treatment may be found effectual also in major* chorea and in the chorea of pregnant women

Archiv fur Gynaekologie, Berlin.

LXXXVI, No 3, pp 505 794 Last indexed Nov 7, p 1647

54 *Relations between Age at First Menstruation and Development of the Pelvis Conditions in Italy (Alter der ersten Menstruation in Italien) T R Doria
55 Structure of the Decidua (Zur Frage von dem feinsten Bau des Deciduagewebes seiner Histogenese, Bedeutung und dem Orte seiner Entwickelung im *Genitalapparat der Frau*) K Ulesko Stroganoff
56 Chemical Study of the Secretion of the Gravid Vagina (Der Scheideninhalt Schwangerer) P Zweifel
57 *Capacity for Absorption of the Mucosa of the Vagina and Uterus (Resorptionsfahigkeit der Schleimhaut der Vagina und des Uterus) S Higuchi
58 *Anatomy, Pathology and Therapy of Chronic Endometritis A Theilhaber and A Meier
59 *Treatment of Placenta Previa M Henkel
60 Experimental Research on Mixed Infection with Vaginal Secretion and Lochia (Was ergeben die bei Thieren angestellten Mischinfectionsversuche mit Scheiden und *Lochial* secret?) E Konrad
61 Duration of Gestation (Wann tritt die Geburt ein? Die zufallig veranderte Dauer der Schwangerschaft) F Schatz

54. ***Influence of Ovaries on Development of Pelvis.***—Doria states that the average age at the first menstruation was 14 years and 3 months in 36,000 Italian women There seems to be a connection between the time of the first menstruation and the size and shape of the pelvis, a very early or very late onset of the menses having been found almost constantly in his 3,000 cases of malformation of the pelvis He believes that the facts observed confirm the assumption that the ovaries have an influence on the development of the skeleton and the nourishment of the bones, especially of the pelvis

This influence is unusually active during or just preceding puberty and consequently measures to insure rest and ample nourishment during this period with appropriate ovarian treatment will reduce the number of generally contracted pelves while the degree of malformation from infantile rachitis will be reduced to the minimum

57 **Absorbing Capacity of Vaginal and Uterine Mucosa.**—Higuchi found that the mucosa of the vagina was able to absorb potassium iodid, salicylic acid and strychnin either in a water, glycerin or cocoa butter vehicle The latter seemed to facilitate absorption most

58 **Chronic Endometritis**—Theilhaber became convinced five years ago from microscopic study of 120 uteri that the structure of the normal mucosa varies widely in different individuals even of the same age, and also in the same person at different ages Conditions are different also in the periods preceding and following menstruation He has since been conducting experimental anatomic and clinical research on the subject and asserts that treatment should be based on this fact Hypersecretion requires removal of the cause, iron for chlorosis, climatic hydrotherapeutic, psychic and dietetic measures for neurasthenia hysteria etc Cool sitz baths are useful in case of flabby uterus with or without ergot, and he also advises flushing the vagina with very hot fluids to stimulate the uterine muscle to contract He found cauterization of the interior of the uterus beneficial in some cases, applying a 30 per cent solution of zinc chlorid or formalin on a cotton swab Rinsing out the uterus does not seem to do much good in case of hypersecretion Local bloodletting is useful in case of hypersecretion from venous congestion By scarification of the vaginal portion, it is possible to withdraw several spoonfuls of blood several times a week Recurrence may be observed following sexual excesses or emotions—the latter as a factor in recurrences is not sufficiently heeded by physicians, as a rule, he says Vasomotor influencing of the vascular system of the uterus is responsible for the return of the hypersecretion in these cases He advises expectant treatment during the acute phase of gonorrheal endometritis In the chronic phase energetic measures are necessary Gonorrhea of the urethra seems to heal better on account of the constant flushing out with the urine, and the menstrual blood seems also to promote the healing of the uterine gonorrhea In the intervals between the menses pus stagnates in the uterus as the bend at the internal os interferes with the escape of the tenacious secretion The conditions are similar to those in an abscess in which there is not free outlet for the pus By rinsing out the uterus, large amounts of retained secretion are washed out, which otherwise prevent the healing of the process He treats such patients by periodical slight dilatation, using for the purpose a Schultze dilator every few days, and then rinsing out the uterus with a weak solution of some silver salt, or ichthyol in case the trouble is of long duration

59 **Treatment of Placenta Prævia**—Henkel comments on Futh's statistics of 618 cases of placenta prævia at Koblenz with a mortality of 143, that is 19 7 per cent Death was the result of hemorrhage in 98 cases and of puerperal infection in 31 Henkel declares that every patient with placenta prævia should be taken to some institution at once The general practitioner must tampon in case the cervical canal is not dilated, and he should not rely on "aseptic cotton," which is too often the source for infection, but should tampon with strips of gauze preferably impregnated with a 2 per cent solution of alum, but wrung out as dry as possible The vulva should be shaved first and the parts around disinfected The vagina is then rinsed out with some disinfecting fluid and then packed tight with the broad strips of gauze The bladder must be emptied before tamponing A patient thus tamponed with a T bandage to hold all in place can be safely taken to the nearest lying in hospital This treatment is applicable however only in case the amniotic sac is still intact and the cervix undilated In case the membranes are ruptured, he advocates version when the cervix is dilated enough to admit one finger He discusses the various points of this one finger technic remarking that skilful version and cautious management of the delivery are bound to give better results than have hitherto been realized In case vaginal Cesarean section is contemplated, he gives ergot at once so that its effect will be obtained simultaneously with the evacuation of the uterus He adds that the classical Cesarean section is seldom advisable for placenta prævia After the uterus is empty, if the hemorrhage still continues, he seizes the vaginal portion of the cervix with forceps and pulls the uterus down, forward and toward the right and then to the left This manipulation closes the uterine arteries more or less, both by direct compression of the vessels and by the traction

Beitrage zur klinischen Chirurgie, Tubingen.

October, LX, Nos. 1 2, pp 1 429.

62 *Operations under Intrapulmonary Positive Pressure (Druckdifferenz Operationen) H Kuttner
63 *Surgery of the Lungs Bronchotomy and Resection of the Lungs (Zur Lungenchirurgie) W Danielsen
64 *Comparative Experimental Research on Methods for Maintenance of Intrapulmonary Positive Pressure (Physiologie des Ueber und Unterdruckverfahrens) L Dreyer and K Spannaus
65 Removal of Giant Tumors of the Small Pelvis with Resection of Pubic Bone and Symphysis (Entfernung ubergrosser Tumoren des kleinen Beckens) H Kuttner
66 Necessity and Possibility of Retention of Spleen in Injury or Disease of This Organ (Beitrag zur konservativen Milzchirurgie) W Danielsen
67 Fetal Peritonitis A Peiser
68 Sarcoma in the Intestines (Sarkom des Darmes) F Munk
69 Inflammatory Tumors in Abdominal Wall Following Appendicitis (Entzundliche Bauchdeckentumoren im Gefolge der Appendicitis) H Meyerson
70 *Technic of Antiferment Treatment of Suppurative Processes E Muller and A Peiser
71 Practical Importance for Surgery of Serodiagnosis of Syphilis (Praktische Bedeutung des serologischen Syphilis Nachweises in der Chirurgie) H Coenen
72 Carcinoma of the Nipple K Hannemüller and F Landois
73 Treatment of Fracture of Upper Arm Above the Condyle (Behandlung des supracondylaren Oberarmbruches) H Coenen
74 Prognosis of Traumatic Simple Dislocation of the Shoulder (Zur Prognose der traumatischen, unkomplicierten Schulterluxation) Schulz
75 Diffuse Giant Celled Sarcoma of Tendon Sheaths (Riesenzellensarkom der Sehnenscheiden) K Fritsch
76 The Tendon Sheaths of the Foot in Relation to Tendovaginitis and Perimysitis Crepitans (Anatomische Untersuchungen uber die Sehnenscheiden der Fussbeuge) O Seemann
77 *Serodiagnosis of Staphylococcus Affections H Coenen

62 to 64 **Operations Under Intrapulmonary Positive Pressure**—Kuttner has the appliances both for the Sauerbruch negative pressure and the Brauer positive pressure technics, and has used them alternately in 21 operations on the thorax He describes this experience in detail, and states that both technics have their advantages, but that he prefers the Brauer method Danielsen reports from the same clinic considerable experimental work with both technics, including operative removal of a foreign body from a bronchus by direct bronchotomy He has found in the literature accounts of three cases in which this was done, reported by Curtis Duncan and Schiassi, with successful outcome in two cases He cites the various points to be borne in mind in such interventions and the best technic for resection of the lung The proximal sections of the bronchus can be separated from the lung without cutting, and without much hemorrhage The bronchus is best closed by a running suture including the cartilaginous bronchus and the peribronchial tissue Wounds in the lung are best closed with fine silk sutures taken through the pleura Dreyer and Spannaus report research on the physiologic phenomena during artificial maintenance of the intrapulmonary pressure the behavior of the respiration, and of the pulse in the general and lesser circulation, the blood pressure in the venous system, and the varying conditions in the thorax with each technic All this research confirms the fact that there is no essential difference between the action of the Sauerbruch pneumatic cabinet and Brauer's positive lung inflation

70 **Antiferment Treatment of Suppurating Processes**—The "physiologic treatment of wounds" introduced by Muller and Peiser was described in these columns June 6 1908 page 1930 It is based on the antagonistic action of proteolytic leucocyte ferment and its antiferment normally in the blood serum and, in increased amounts in morbid effusions If the antiferment is supplied artificially to a "hot" abscess it transforms the lesion into a "cold" abscess and thus it has unlimited therapeutic indications The antiferment can be derived from the patient's own blood serum after venesection or from puncture fluids If of foreign origin the serum is filtered through porcelain Trypsin has proved a convenient means of test

ing the proportion of antiferment in the serum. The antiferment acts only by direct contact, and the best technic for its application has been found to be by aspirating the contents of the abscess through a puncture, and then injecting the antiferment through the same needle, enough to fill the cavity without distending it. The contents of the abscess are then aspirated again, and again it is filled with fresh antiferment which is then left in the cavity. If the spot is still sensitive to pressure the next day, the procedure is repeated. No incision is required with this technic; it is applicable only when a mastitis or other process is tending to abscess formation. Thirteen typical cases of abscesses, *felons*, etc, are described in detail, out of an experience of 100 cases, to show the advantages of this "physiologic" treatment The antiferment attracted to the spot is probably, they think, the main factor in the benefit from *hyperemic treatment*. A serum rich in antiferment can be kept on ice for several weeks in stoppered vessels. It should be tested from time to time to determine its strength. The larger the proportion of antiferment, the better and longer the serum keeps

77. **Serodiagnosis of Staphylococcus Affections.**—Coenen has been experimenting with the cutaneous toxin test, agglutination, opsonic index and antitoxin tests, but found that the agglutination test—the technic similar to that in typhoid—is the most reliable of all. Positive findings are not obtained in recent, brief infection; a more chronic course is indispensable for positive agglutination.

Berliner klinische Wochenschrift.

November 9, XLV, No 45, pp 2009 2052.

78 *Occurrence of Duodenal Ulcer Before Age of 10 (Vorkommen von Ulcus duodeni im ersten Dezennium) L Kuttner
79 *Permanent Results of Transplantation of Vessels and Organs (Ueber Dauerresultate nach Gefass und Organtransplantationen) Capelle
80 Ringworm in Children (Mikrosporie und Makrosporie der Kinderkopfe) F Glaser
81 Experimental Experiences with Spengler's Tuberculosis Immune Body—I-K (Tierversuche mit dem Spengler'schen Tuberkulose Immunkorper) G Landmann
82 *Electric Treatment of Bronchial Asthma (Neue Behandlung von Bronchialasthma) O Gunzel
83 *Mechanical "Thymus Death" (Mechanischer Thymustod) L Huismans
84 *Relations Between Tuberculosis and Human and Bovine Tubercle Bacilli (Untersuchungen uber die Beziehungen zwischen der Tuberkulose und den Tuberkelbacillen des Menschen und der Tuberkulose und den Tuberkelbacillen des Rindes) J Fibiger Commenced in No 44

78 **Duodenal Ulcer in Children.**—Kuttner found an ulcer in the duodenum in the cadaver of an infant a month old who had succumbed to intestinal hemorrhage. In a second case three round ulcers were found in the duodenum of a child of 4 dying with acute diarrhea and vomiting of blood He is inclined to believe that an ulcer in the duodenum may be a cause of stenosis of the pylorus in infants; the reflex spastic contraction of the pylorus may lead to functional stenosis This assumption is sustained by the fact that admixture of blood has been observed in the vomit in cases of stenosis of the pylorus, and even coffee dregs vomit. Another argument in favor of this assumption is the unusual amounts of free hydrochloric acid sometimes encountered with the stenosis Torday has reported a positive case in which an ulcer was found in the duodenum after death at the age of 8 months with the syndrome of congenital stenosis of the pylorus In obscure anemic conditions in infants and young children, the possibility of an ulcer in the duodenum should be borne in mind and the stool examined for occult blood. Treatment of ulcer in the duodenum should be along the same lines as for ulcer in the stomach If there is hemorrhage, hot cataplasms to the stomach region should be replaced by application of ice. Operative treatment has little chance of success during the shock from extensive hemorrhage

79. **Ultimate Results from Transplantation of Vessels and Organs.**—Capelle reports results from the experimental work in this line at Garré's clinic at Bonn The implanted arteries functionate well and the vascular wall adapts itself to the new conditions Veins taking the place of arteries become thicker and more like arteries It was found possible to restore the thyroid to its place and function by means of suture of the vessels after the organ had been totally separated and kept over an hour outside of the body. After its restoration to place the animals developed normally, but when the thyroid was finally removed for examination. 245 days after the first operation, the animals rapidly succumbed to typical post-thyroidectomy tetany. The experiences with circular union of transverse severed vessels and the substitution of resected arteries by implanted segments of arteries or veins, proved so successful that Capelle declares that the method is ripe for adoption in the clinic.

82 **Electric Treatment of Asthma.**—Gunzel is convinced that the asthmatic spasm is frequently traceable to some peripheral point In one case removal of a small projection in the nose completely cured nocturnal asthma in a boy of 5. Besides this class of cases, in 50 cases of bronchial àsthma he has applied the high-frequency current This current passed through an aching nerve renders it insensible, and it can be used to induce local anesthesia, to cure neuralgia, rheumatoid pains, etc In an acute attack of asthma the electricity rapidly *soothes and the spasm subsides From two to four* applications at one hour intervals relieve and cure the attack of asthma without necessity for morphin.

83 **"Thymus Death."**—In the two cases reported the apparently healthy children died suddenly during sleep and *nothing* could be found to explain the fatality except a very large thymus. Probably the child threw its head back in its sleep, thus compressing important organs between the large thymus and the spine. In both cases reported, the trachea and aorta were not involved; the compression was mainly on the veins as evidenced by the edema in brain and lungs and the striking coagulation in the pulmonary veins and left side of the heart.

84 Abstracted in THE JOURNAL, December 12, page 2096

Deutsche Zeitschrift fur Chirurgie, Leipsic.

November, XCV, Nos 1 5, pp 1 559 E. Sonnenburg Number

85 *Sensitiveness to Pain of the Viscera Innervated by the Sympathetic (Schmerzempfindlichkeit des visceralen Sympathicusgebietes) Goldscheider
86 *New Fundamental Principle in Pharmacology (Neues pharmakologisches Grundgesetz) M Jacoby
87 Serodiagnosis of Syphilis in Affections of Aorta, Tabes and in Syphilis (Erkrankungen der Aorta, Tabes dorsalis und Lues) A Schutze
88 Hematogenic Infection in Appendicitis and Cholecystitis Caron
89 Appendicitis and Trauma (Appendicitis und Unfall) H Strohe
90 Herniologic Notes (Kasuistischer Beitrag aus dem Gebiete der Herniologie) P Tschmarke
91 Nervous Paralyses After Injury of Upper Arm (Nervenlahmungen nach Oberarmverletzungen) R Muhsam
92 Traumatic Subcutaneous Ruptures of Gastrointestinal Canal (Traumatische subkutane Rupturen des Magen Darm kanales) A Schwarz
93 *Postoperative Gastrointestinal Hemorrhage (Postoperative Magen Darmblutungen speziell nach Appendicitisoperationen) G Schwalbach
94 *Automobile Injuries (Automobilverletzungen) Zimmer
95 *Etiology, Diagnosis and Treatment of Tubal Pregnancy (Tubargravidität) L Fiedler
96 Surgical Importance of Region Below Diaphragm (Das Hypophrenium und seine chirurgische Bedeutung) v Renvers
97 Pyocyanase in Infectious Diseases (Behandlung von Infektionskrankheiten, speziell der Diphtherie, mit Pyocyanase) F Weil
98 Influence of Castration on Respiratory Metabolism (Einfluss der Kastration auf den respiratorischen Stoffwechsel) L Zuntz
99 Invagination of Small Intestine from Inward Protrusion of Meckel s Diverticulum (Dunndarminvagination durch Einstulpung eines Meckelschen Divertikels) R Kothe
100 *Ischemic Contracture of Muscles and Plaster Cast (Ischämische Muskelkontraktur und Gipsverband) O Hildebrand
101 *Prevention of Recurrence of Kidney Stone (Zur Verhütung von Rezidiven der Nierensteinkrankheit) G Klemperer
102 Volvulus of Hour Glass Stomach (Magenvolvulus bei Sanduhrmagen) O Hermes
103 Latent Appendicitis with Symptoms of Ileus in the Young P Goedecke
104 *Malformations in Upper Extremity* (*Missbildungen an der* oberen Extremität) M Cohn
105 Successful Removal of Dermoid Cyst in Mesentery of Small Intestine (Operativ geheilter Fall von Dermoidcyste im Mesenterium des Dunndarms) Federmann
106 Experiences with Marmorek's Antituberculosis Serum A van *Huellen*
107 *Technic for Spinal Anesthesia at Bier's Clinic (Das zurzeit an der Berlin [illegible] Universitatsklinik übliche Verfahren der [illegible] A Bier
108 *Experimental [illegible] an [illegible] Spinal *Anesthesia* (Lumbalanasthesie) Oelsner and Kroner
109 Tumors in the Cerebello pontine Angle and Multiple Neurofibromatosis (Zur Kenntnis der Kleinhirnbruckenwinkeltumoren und der multiplen Neurofibromatose) A Westphal
110 Interesting Postmortem Findings in Gunshot Wounds of Skull (Sektionsbefunde von Schädelschussen) C Benda
111 Gunshot Wounds of Abdomen in Peace (*Beitrage zur* Kenntnis der Bauchschussverletzungen des Friedens) H Kohl

112 Fractures of the Vertebræ, Especially the Rarer Forms. (Wirbelsäulenbrüche.) T. Gümbel.
113 *Attempts to Resuscitate Animals by Passing Arterial Blood Through the Heart and Central Nervous Organs. (Versuche zur Wiederbelebung von Tieren mittels arterieller Durchströmung des Herzens und der nervösen Zentralorgane.) O. Zeller.

85. **Sensibility to Pain on the Part of the Viscera Innervated by the Sympathetic.**—Goldscheider admits that the visceral nerves may be non-sensitive to pain when they are in a normal condition, but thinks that morbid conditions may arise in which they may become sensitive. The pain is a reaction the same as a reflex. It may be the sum of a number of sensations below the dignity of a pain, but becoming pain by their accumulation. This assumption is an argument against the existence of "pain nerves."

86. **New Pharmacologic Principle.**—Jacoby expatiates on the advantages of surgeons and pharmacologists working together, and describes experimental research which demonstrated that the joints are by no means the chosen seat of injected salicylic acid; the blood serum is normally its favorite stronghold. On the other hand, in animals injected with staphylococci, the salicylic acid was found in the joints in twice as large amounts as in normal joints. This led to the discovery that a drug obeys its own laws of distribution in the normal and diseased organism. This distribution may be different for each affection and individual case. He states that this simple law is a new principle which has been overlooked by pathologists and pharmacologists hitherto. It explains, for instance, how an infected joint can look out for itself and secure a concentration of the drug not reached elsewhere. It also explains how a sick person is able sometimes to stand doses which a healthy one would be unable to tolerate. In case of a joint affection, a large proportion of the salicylic acid administered goes to the joints, which in a healthy person would go to the central nervous system. The infected are thus less liable to intoxication than the healthy. This new principle also explains the phenomena of the "point of lesser resistance." Altered tissue has an altered power of attracting foreign substances, drugs or bacteria. Tuberculous tissue, for instance, attracts iodin more strongly than the normal tissues. If the eye of an animal is infected with tubercle bacilli, and iodin is then injected elsewhere, it will be refound almost entirely in the tuberculous eye. It is possible that this phenomenon may yet be utilized for diagnostic purposes. Velden has recently reported that injected iodin was not discovered in the sound parts of an organ, but it was found collected in the cancer foci in the organ. Jacoby calls the attention of surgeons to this fact in particular. Only in operations is the opportunity afforded to have an individual incorporate some drug and then to study the concentration of the drug in the tissues, the tumor or parts of the tumor. At present we do not know of any drugs that act especially on tumors, but advancing science may soon discover such. Examination of an excised scrap will then reveal whether the drug has reached the tumor, and whether it is best incorporated by way of the mouth or veins or subcutaneously or by direct injection into the tumor.

93. **Postoperative Gastrointestinal Hemorrhage.**—Schwalbach states that one-third of the cases of hemorrhage following operations on the appendix on record occurred in children. The hemorrhage is evidently, he thinks, the result of thrombosis in the vessels of the omentum and mesentery. Similar conditions can be reproduced in animals; the operation is the main factor in their occurrence. The prognosis is grave, and treatment can only be symptomatic. In the 30 cases on record, the outcome was fatal in 17. In the 2 personal cases reported, the hemorrhage followed an interval appendicectomy; the hemorrhagic stools were first noted the third and fifth day after the operation and they continued for a week, after which there were no further signs of hemorrhage. The first patient, a woman of 28, was treated with strychnin, opium and gelatin; the second, a man of 35, with adrenalin only. The hemorrhagic erosion in the cases that came to autopsy corresponded to the site of the ordinary round ulcer, and Schwalbach is confident that both are referable to local disturbances in the circulation, for which the operation is mainly responsible in the postoperative cases.

94. **Automobile Injuries.**—Zimmer states that 145 persons were killed and 2,419 injured by automobiles in Germany during eleven months in 1906-1907, and that 80 of the injured passed through Sonnenburg's surgical service at Berlin, with a mortality of 10. In one case a girl of 9 was run over by an electric cab and was dismissed from the hospital in good health sixty-four days afterward, entirely recovered from fracture of several ribs, of the upper arm and double fracture of the pelvis with laceration of the bladder. The almost immediate laparotomy allowed conditions to be promptly remedied, the arm placed in a splint and the pelvis in a plaster cast. The only disturbance left is that the right leg is still a trifle short. In 65 of the cases the injuries were very severe; bones were fractured in more than 50 per cent. Especially noticeable was the large number of fractures of the base of the skull and concussion of the brain, the extent of the hematomas and of the contusions of the soft parts and the undermining of the skin. Besides these, there were a few cases of the typical "automobile fracture," the lower end of the radius broken by too sudden starting of the lever when the spring fails to work. This injury generally heals rapidly. In one such case the diaphysis of the radius was fractured and the ulna dislocated to such an extent that it bored through the wrist.

95. **Tubal Pregnancy.**—Fiedler concludes from his research on 82 cases of tubal pregnancy that it is not so rare as some assume, but averages 2.3 per cent. of all pregnancies. A predisposition is afforded by gonorrheal and puerperal infection and by trauma. Elderly multiparæ formed the majority in his experience. He asserts that the presence of urobilin in the urine, in the absence of other affections predisposing to urobilinuria, is an important aid in diagnosing a disturbed extrauterine pregnancy. He advocates laparotomy, even if there is already an encapsulated retrouterine hematocele, and declares that it is not necessary to wait for the subsidence of shock. He advises removal of clots only in so far as it is possible to do so without injury of the intestines or prolongation of the operation.

100. **Ischemic Muscular Contracture and Plaster Casts.**—Hildebrand remarks that the denunciation of the plaster cast as responsible for the ischemic muscular contraction in cases of fracture of the elbow and forearm is irrational, as in 34 of the 56 cases on record no plaster dressing had been used, and as, further, the contracture had been observed before the advent of plaster casts. The trouble is the result of disturbance in the circulation of the parts, and it may occur from any disturbance of the kind. The radial and ulnar pulse should be carefully investigated in all such cases, and if the pulse is found weak no further compression should be permitted. If a plaster dressing or splint or adhesive plaster is used, the main point is to see that it is extensively padded. If the ischemic contracture then occurs, the primary injury of the vessel is the only factor responsible for the trouble.

101. **Prevention of Recurrence of Kidney Stones.**—Klemperer expatiates on the necessity for internal medical measures to prevent recurrence of kidney stones after their operative removal, and advocates for this measures to promote the flow of urine through the kidneys to wash out the sediment that otherwise might form concretions. Every such patient should be advised, he asserts, to drink frequently between meals, taking from 200 to 300 c.c. every two or three hours and to drink copiously just before retiring, as the night urine is the most concentrated and has the greatest tendency to sediment formation. A glass of water beside the bed at night can be sipped as the patient wakes—such persons are generally elderly and wake often. The fate of these patients depends on the observance of this advice. The kind of beverage is of less importance, although weakly alkaline, carbonated mineral waters should be given the preference. He adds that from the standpoint of prevention of recurrence of kidney stones, there are no contraindications to the use of alcoholic beverages. The patients with a tendency to obesity and heart disease should drink copiously, as above, but exclusively between meals, taking food frequently, but in small amounts, that leave the stomach soon empty, and drinking freely between the meals. In this way the tendency to kidney stones and to

obesity will be combated at the same time. Rosenfeld has his obese patients drink up to 10 quarts of water a day, all between meals, and has found this extremely effectual in reducing weight. In heart disease, the free ingestion of water as above is not advisable in case of failing compensation, but in other conditions it is not contraindicated. The intake of fluid within reasonable bounds does not injure the heart muscle, as is shown by the blood pressure and the experiences with diabetes. The diet should be mixed, but the oxalate-stone patients should refrain from tea and spinach, and the urate-stone patients from eating the glandular organs (thymus, liver, kidneys). He has known of instances in which a urate-stone patient had followed the physician's advice to refrain from meat, and this strict vegetarian diet for four years had resulted in the formation of oxalate stones in the kidney. Any exaggeration should, therefore, be avoided, although it is wise to restrict the amount of salt to the minimum needed to render the food palatable; the more salt in the urine, the greater the tendency to the depositing of sediment. Drugs are superfluous, he says, and even sodium bicarbonate should not be given unless the reaction of the urine is constantly supervised or harm may result. A weakly alkaline mineral water is perhaps best, but excess even of this should be avoided. In case of oxaluria, small doses of a magnesium salt (0.5 gm., or 7.5 grains, of magnesium sulphate four times a day) will keep the calcium oxalate in solution in the acid urine. Especial care is required in the cases of phosphate stones, as these display the greatest tendency to recurrence. Concomitant infection, of course, requires treatment, but the simple cases in which the urine is merely excessively alkaline, possibly the effect of a too exclusive vegetable diet, may require regulation of the diet and measures against hypersecretion in the stomach. It is a difficult matter to advise a patient whose phosphate stones are the result of gastrogenic alkalinuria. If lime is excluded from the diet, it is drawn from the tissues of the body and serious damage may result. No dietetic regulations are able to prevent recurrence of aseptic phosphate stones—all that can be done is to order copious drinking between meals, a mixed diet, supplemented by treatment of the nervous system and, possibly, occasional administration of sodium oxalate. In every such case careful analysis of the urine is imperative.

107. **Spinal Anesthesia.**—Bier regards cocain as the most dangerous and tropacocain as the safest drug for spinal anesthesia. The ordinary dose of the tropacocain is 0.05 gm. (¾ gr.), and the maximum dose 0.06 gm. (1 gr.). To this Bier adds 0.0001 gm. suprarenin; the solution must be isotonic and warm. The injection is made between the second and third, or first and second lumbar vertebræ, and the anesthetic should never be injected until the cerebrospinal fluid is flowing in a series of rapid drops from the needle. Bier states that the only serious by-effect observed was vomiting in about 5 per cent. of the cases. In the last 400 cases the only noticeable symptom was transient pallor and small pulse; the latter condition being observed once in a man of 82. Headache occurred afterward in 6 per cent. of the cases, but generally in women who had suffered from headache previously. Recently, he has been using with satisfaction the scopolamin-morphin technic as a preliminary to the spinal anesthesia, especially for nervous and excited patients. He makes two injections, an hour and a half and three quarters of an hour before the operation, of a mixture of 0.0012 gm. (1/50 grain) scopolamin and 0.03 gm. (½ gr.) morphin with distilled water to 2 c.c. injecting 0.7 or 0.8 c.c. at a time, thus using only about two-thirds of the total amount of the mixture. With this technic the patient is not too drowsy to sit up for the spinal puncture, but he must be supported or he will fall as he sits, bent forward, on the edge of the operating table. Bier's experiences with a gelatin addition to the anesthetic and with attempts to extend the analgesia have not been successful. In conclusion he reiterates his belief that the evil effects of general anesthesia are much more extensive and serious than is recognized at present. The general anesthesia causes important disturbances which it is impossible to set down in statistics. This is shown, he says, by the patients operated on for cancer of the rectum under general anesthesia—they present afterward the picture of serious depression, while those operated on under spinal anesthesia do not seem sick at all afterward. The same is observed after the Freund-Wertheim operation on the uterus. Bier has had two fatalities with spinal anesthesia. One was reported by Dönitz in 1906; more than twice the standard dose was injected in this case. The second, unreported case, was that of a man of 40 being treated for external inguinal hernia. The standard dose was given, but without any suprarenal preparation, and the pelvis was raised as usual. Vomiting and sudden heart failure followed in a few minutes.

108. **Spinal Anesthesia.**—Oelsner and Kroner report the experiences at Sonnenburg's clinic and the results of considerable experimental research. They experimented with injection of salt solution cooled to freezing point, after withdrawal of a corresponding amount of cerebrospinal fluid. The ice-cold fluid does not injure the tissues while the anesthetic effect justifies, they say, further trials of this method, especially, they add in conclusion, as none of the methods of spinal anesthesia in vogue to date are entirely free from possible evil effects and never can be free from them, as they are based on the introduction of a foreign chemical substance which must inevitably do more or less injury.

113. **Attempts to Resuscitate Animals by Passing Arterial Blood Through the Heart and Nervous System.**—Zeller's article reviews the numerous researches of others in approximate lines and reports a series of experiments with various substances to act on the blood. The results suggest that the method might possibly be applied in the clinic as a last resort.

Medizinische Klinik, Berlin.

November 1, IV, No. 44, pp. 1669-1706.

114 **Anthrax and Its Treatment.* (Milzbrand und seine Behandlung.) Barlach.
115 * *Clinical Study of Mitral Stenosis and Relative Insufficiency of Pulmonary Valves with Mitral Stenosis.* (Zur Klinik der Stenose des Mitralostiums und zur Frage der relativen Insuffizienz der Pulmonalklappen bei Mitralstenose.) N. Ortner. Commenced in No. 42.
116 *Importance of Anaërobic Bacteria in Appendicitis.* M. Heyde.
117 *Serotherapy of Epidemic Cerebrospinal Meningitis.* (Ueber epidemische Genickstarre.) F. Quenstedt.
118 *Serotherapy of Croupous Pneumonia.* F. Krische.

114. **Treatment of Anthrax.**—Barlach states that under expectant treatment 3 died out of 10 patients with anthrax, while none died in the 9 cases between 1900 and 1905 in which active treatment was undertaken. Since 1905 he has been using a method that seems to shorten the course of the affection still more, and there has been no mortality in the 23 cases and no disfiguring scars. The first principle in treatment is to avoid further injury. Especially injurious is any pressure on the pustule, which forces the bacilli out into the blood. It is important, therefore, for the patient to lie quietly in bed. In mild cases it is sufficient to cover the pustule and its vicinity with an antiseptic moist dressing; mercury bichlorid or aluminum acetate can be used for the purpose. The strictly local lesion rapidly heals under this treatment, but in the severer cases a crucial incision is made and the actual cautery is used to make a groove of deep punctures around the lesion. This groove forms a scab which renders it difficult for the anthrax bacilli to penetrate into the surrounding tissues. This crucial incision and the ring of cauterization around the lesion are simple and can scarcely be considered an actual operation. The pain is so slight that it seems to indicate that the sensibility in the pustule is much reduced. He adds that the effect of this treatment is invariably so good that it has scarcely a parallel in therapeutics, except antitoxin in diphtheria.

115. **Mitral Stenosis and Relative Insufficiency of the Pulmonary Valves with Mitral Stenosis.**—Ortner concludes this extensive study of the auscultation findings in three cases of mitral stenosis, with a review of a number from the literature. He believes that the distinctly different character of two murmurs of the same phase of contraction of the heart does not necessarily imply a different origin for the murmurs. In certain cases the whole series of auscultation symptoms (presystolic murmur, accentuated first sound, systolic and diastolic sounds) of mitral stenosis and incompetency is audi-

ble not only over the left base of the heart, but it is conveyed up into and is audible in both carotids. In rare cases of mitral incompetency the systolic murmur may be heard exclusively in the left chest at the back, in the region of the angle of the scapula, at least for a certain length of time. The possible existence of relative incompetency of the pulmonary valves *in consequence of mitral stenosis* is rendered probable by Bryant's first case, but it is not proved. All the rest of the cases classified under this head were in reality cases of mitral stenosis with a diastolic murmur over the left base of the heart.

Münchener medizinische Wochenschrift.

November 3, LV, No. 44, pp. 2265-2312.

119 *Research on Variola. S. v. Prowazek and H. de Beaurepaire.
120 *Influence of "Scarlet Oil" on Mouse Tumors. (Einfluss des Scharlachrotes auf Mäusetumoren.) R. Werner.
121 *Nervous Disturbances of Arms in Arteriosclerosis. (Dyskinesia und Paræsthesia *intermittens.*) O. Wandel.
122 Induced Orthostatic Albuminuria. (Albuminuria provocativa orthostatica.) A. W. Bruck.
123 In[illegible] *Engel and Bauer.*
124 Chronic Pneumothorax. A. Bittorf.
125 Cirrhosis of the Liver. (Leberzirrhose.) O. Meyer.
126 *Foreign Bodies in the Esophagus. (Fremdkörper des Oesophagus.) A. Ach.
127 Treatmen[illegible] (Behandlung der Hypospadia [illegible] H. Mohr.
128 Etiology [illegible] (Aetiologie der Köhlerschen Knochenerkrankung.) A. Dobisch.

119. Research on Variola.—This communication from Rio de Janeiro reports research which seems to indicate that the *causal agent of smallpox is a symbiosis with a streptococcus,* plus the presence of a certain complement. The scarcity of the virus in the circulation and the lack of antibodies in the blood seem to demonstrate that smallpox is predominantly an ectodermal affection of the tissues, and that the immunity is an immunization of the skin.

120. Influence of "Scarlet Oil" on Mouse Tumors.—Werner has been experimenting with the dye, scarlet red (*Scharlachrot*) oil injected into a mouse tumor. The findings show that the resulting proliferation is not from chemotactic influencing of the cells, but is the result of their irritation. The proliferation in the mouse tumor described occurred always away from the injected fluid. This concentric growth is the first testimony that the cells are not attracted to the dye, but can grow away from it.

121. *Nervous Disturbances in the Arms in Arteriosclerosis.*—Wandel found dyskinesia and paresthesia in 13 out of 30 women over 55 years old, and in 6 others there were more or less pronounced arteriosclerotic disturbances in the legs. Similar disturbances were noted in 13 out of 32 men. In all these patients the peripheral vascular disturbance accompanied arteriosclerosis, but no general taint was evident in any of the cases, no syphilis, diabetes or tobacco poisoning. Only the *age over 55, with its general and special phenomena of wearing out,* was common to all the cases. There was no neuropathic tendency, but the localization of the peripheral disturbances seemed to be always determined by the functional demands made on the extremities. Local chilling and exposure to cold water or other local injury seemed to entail the *trouble, with* their excessive reflex irritation of the peripheral vessels, in addition to the functional demands, reducing the vitality of the *parts and localizing the arteriosclerosis.* Aschoff found that typical arteriosclerosis could be artificially induced by hanging up an animal by the hind legs for three minutes once a day. The analogy was complete to the microscopic details. The peripheral occupation-arteriosclerosis shows less tendency to calcification and changes in the media than to obliterating endarteritis with its consequent interference with the nourishment and functioning of the peripheral nerves.

126. Foreign Bodies in the Esophagus.—Ach relates his experience in seven cases of swallowed foreign bodies extracted with the aid of an esophagoscope; *three additional* cases required esophagotomy. He expatiates on the advantages of *esophagoscopy as facilitating* the removal of foreign bodies. It is the safest, simplest and least dangerous method for diagnosis and treatment in such cases. Even the Roentgen rays may give misleading findings, as in a case described in which a patch of calcification simulated a foreign body and led to extreme efforts, to dislodge it, in the course of which the foreign body was expelled from the bowels. He relates a few cases in which numerous foreign bodies passed harmlessly through the digestive tract. In one, a man swallowed nails, needles and various foreign bodies and passed a large number by the rectum with little disturbance, one such evacuation including 16 nails, 3 hairpins and a pocket knife, beside removal of hatpins, etc., *in the course of three laparotomies.* Ach warns against the practice of pushing a foreign body down into the stomach unless it is known to be a small coin or a soft piece of meat or bread. The local spasm of the muscle holding the foreign body in the esophagus can sometimes be *relieved by general anesthesia.*

Therapeutische Monatshefte, Berlin.

November, XXII, No. 11, pp. 549-604.

129 *Secretion of Hydrochloric Acid and Hydrochloric Acid in Therapeutics. (Salzsäuresekretion und Salzsäuretherapie.) E. Fuld.
130 *Recognition and Internal Treatment of Pyloric Stenosis in Infants. (Erkennung und interne Behandlung der hypertrophischen spastischen Pylorusstenose der Säuglinge.) J. Ibrahim.
131 Allowing Patients to Get Up Soon After a Laparotomy. (Das frühe Aufstehen nach Laparotomien.) Hartog.
132 *Resuscitation in Apparent Death by Means of Oxygen and Intubation. (Wiederbelebung Erstickter und Scheintoter mittels Sauerstoff und Intubation.) F. Kuhn.

129. *Hydrochloric Acid* in Therapeutics.—Fuld reviews the various theories in regard to the secretion of hydrochloric acid and its use in therapeutics, and calls attention to a number of erroneous conceptions in regard to treatment of stomach trouble. Among them is the administration of pepsin in an alcoholic medium, as alcohol is a ferment poison. He presents arguments to show that a small amount of hydrochloric acid before meals answers best the desired therapeutic purpose. The hydrochloric acid is very useful in a large proportion of cases of deficient secretion; those without symptoms do not require any treatment, and the severer cases can not be influenced by hydrochloric acid alone. He gives from five to ten drops of dilute hydrochloric acid several times a day. *This small amount has little direct influence on the digestion,* but it stimulates by reflex action the entire digestive process and approximates the physiologic antiseptic and antitoxic action, while it stimulates the secretion of pancreatic juice. In regard to pepsin, he suggests that it might be simpler, cheaper and the results more complete if the *pepsin digestion* were done before the food is taken. Combination of hydrochloric acid with pepsin or other substances is liable to annul the action of the acid completely. Food for persons with deficient secretion of hydrochloric acid requires more careful preparation or possibly pepsin predigestion.

130. Differentiation and Internal Treatment of Stenosis of the Pylorus in Infants.—Ibrahim enumerates the differential points and outlines the internal treatment, which has proved extremely successful in his hands in fifteen cases. Experience has shown that the hypertrophy of the pylorus increases and recedes, and influences can be brought to bear to favor its relaxation. During life the stenosis is by no means the hard *ring found in the cadaver,* and everything shows that the hypertrophy can be reduced by appropriate measures. The chief aim is the neutralizing of the acid stomach content with a mild alkaline water with the milk or between the meals. The act of sucking the breast induces a predisposition to spasmodic contraction of the pylorus, so that he *finds it* advisable to draw the breast milk with a modern breast pump and feed it to the child with a spoon, possibly removing the fat. The breast secretion can be kept up for two or three weeks in this way. Very small amounts of the milk, ice cold or merely at room temperature, are less liable to induce vomiting. He reduces the feeding to 30 gm. (a little less than an ounce) every two hours, or one-third this amount every hour, day and night, with possibly tepid Vichy water between meals in the same amount. This strict dieting should not be kept up for more than 8 or 10 days without supplementing it with rectal nutrient enemas. The stomach should be rinsed out every day and a cataplasm applied to the region of the pylorus to reduce the pain and favor the relaxing of the spastic stenosis. In severer cases he has these cataplasms applied immediately after the meals, every 4 hours, day and night, for several weeks, removing the cataplasm as soon as it cools. Pfaundler recommends for the same purpose a Japanese pocket stove. With these measures *complete recovery is the rule, and the stenosis never recurs,* although nervous disturbances may be observed in later life. This fact suggests that such children require special oversight for prophylaxis. The differentiation of this form of stenosis is not difficult. The symptoms seldom develop before the end of the first or during the second, third or fourth week or even not till the eighth week. The first sign is frequent vomiting and decline in weight with the absence of intestinal dyspepsia. There is generally constipation and the stools are dark brown or a light meconium. The inefficacy of ordinary measures to control the vomiting and the explosive character of the latter, the absence of bile in the vomit, the pain during drinking and the extreme hunger of the infant, all aid in the differentiation, confirmed by the violence of the peristalsis in the stomach and the discovery of the tumor formed by the enlarged pylorus. Only 45 per cent. have been saved to date out of the 138 children operated on for this trouble, but if the symptoms continue to progress, operative treatment should be considered after 8 or 14 days, not waiting until the child has become too debilitated to stand any operative intervention.

132. **Oxygen by Intubation for Resuscitation in Apparent Death.**—Kuhn urges that a double current tube—such as he uses for peroral intubation—should be an indispensable adjunct to the life-saving equipment. The tube should be used to supply oxygen to the lungs, especially when the measures for resuscitation have to be kept up for hours. It avoids the injury of the parts liable with other measures, while it insures an even supply of air or oxygen, with its regular evacuation.

Zeitschrift für Geburtshülfe, Stuttgart.

LXIII, No. 1, pp. 1-216. Last indexed Nov. 14, p. 1742.

133 *Metastasis of Carcinoma of the Uterus in the Central Nervous System and the Organs of Sense. H. Offergeld.
134 Limitation of Indications for Extraperitoneal Cesarean Section, Total Extirpation After Cesarean Section, and Pubiotomy. (Zur Indikationsabgrenzung zwischen extraperitonealem Kaiserschnitt, Totalexstirpation nach Kaiserschnitt und Schambeinschnitt.) O. v. Franqué.
135 Malignant Adenoma of the Vaginal Portion of the Cervix Uteri. (Adenoma malignum portionis uteri.) F. Klinger.
136 Tuberculous Cysts in Corpus Luteum. A. Garkisch.
137 Etiology of Puerperal Wound Infection. M. Henkel.
138 Hypoplasia of the Tubes in Relation to Extrauterine Pregnancy. O. Höhne.

133. **Metastasis of Uterine Carcinoma in Nervous System and Organs of Sense.**—Offergeld has found records of metastasis in the brain in 20 cases; the metastasis generally occurs early, while the uterine cancer is still operable, and the metastatic nodule is solitary, although daughter tumors in the lungs and liver are comparatively frequent. The brain metastasis generally causes no symptoms; especially noticeable is the lack of signs of pressure on the brain. In 3 of the cases on record there was right hemiplegia, and in 3 others vague symptoms suggesting merely a possibility of an organic brain affection. He urges that the brain should be examined in all cases of uterine cancer that come to autopsy. In 5 cases on record metastases in the dura were observed, generally multiple, and accompanying advanced cancer. He was unable to find any record of any metastasis in the spinal cord, but asserts that the peripheral nerves in the vicinity of the uterine cancer are involved in metastasis more often than is generally supposed. Scraps of the nerves should be excised for histologic examination to throw further light on this subject. He has collected 4 cases of metastasis in the eye and 1 in the tongue. In all the cases in which the nerve was involved, the axis cylinder was intact, the connective tissue being exclusively affected.

Zentralblatt für Chirurgie, Leipsic.

November 21, XXXV, No. 47, pp. 1385-1416.

139 Surgery of the Temporal Bones. (Zur Chirurgie des Schläfenbeins.) E. Ruttin.
140 *Simple Apparatus for Artificial Respiration When the Thorax Has Been Opened. (Einfacher Apparat zur künstlichen Atmung bei eröffnetem Thorax.) M. Katzenstein.

140. **Apparatus for Artificial Respiration when the Pleura is Opened.**—One of Kuhn's peroral tubes is introduced into the trachea, the outer end connected by a long tube with a small bellows. A second tube branches from the center of the long tube with a funnel at the end through which the anesthetic is administered. When the thorax is opened the lung collapses, but it is inflated again by the bellows. The air then escapes through a small valve in the long tube, after which the lung is again inflated with the bellows. This is kept up at rhythmical intervals, and respiration proceeds smoothly and regularly. Katzenstein has used this apparatus once in the clinic and with complete success, after extensive trials on the cadaver.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a *full equivalent to those sending* them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

Walsh's Physician's Combined Call-Book and Tablet. Monthly Form. Thirtieth Edition. Flexible Leather, with Pocket and Special Memoranda. Price, $1.50. Washington, D. C.: Ralph Walsh, M.D. Together with Walsh's Physician's Handy Ledger. A Companion to Walsh's Physician's Combined Call-Book and Tablet. Cloth. Pp. 600 (for 600 patients). Price, $3.50. Larger Size for 1,200 Patients, $7. Washington, D. C.: Ralph Walsh, M.D.

Quarterly Report of the Progress of Segregation Camps and *Medical Treatment* of Sleeping Sickness in Uganda. For the Quarter, Dec. 1, 1907, Feb. 29, 1908. By Captain A. C. H. Gray, R.A.M.C., *Medical* Officer in Charge of Sleeping Sickness Extended Investigations. With an Introduction by Dr. A. D. P. Hodges, Senior Medical Officer, Uganda. Paper. Pp. 35. London: Sleeping Sickness Bureau, 1908.

Beknopt Leerboek der Oogziekten. Door Charles H. May, Oogarts te New York en Leeraar in de Oogheelkunde aan het Columbia College Aldaar, Naar den Tienden Amerikaanschen Druk op Verzoek van den Schrijver voor Nederland Bewerkt, door G. J. Schoute, Oogarts te Amsterdam. Cloth. Pp. 450, with illustrations. Amsterdam: H. Meulenhoff, 1908.

Unsere Mittelschueler zu Hause. Schulhygienische Studie. Nach Erhebungen an Münchener Mittelschulen, veranstaltet durch die Schulkommission des Aerzlichen Vereins München. Von Eugen Dornberger, pr. Arzt in Munchen, und Karl Grabmann, pr. Arzt in Munchen. Paper. Pp. 208. Price, 5 marks. München: J. F. Lehmanns, Verlag, 1908.

Lecons Elementaires de Microbiologie Generale. Professées a l'Ecole nationale d'agriculture et de médecine vétérinaire du Perou. Par E. Pozzi-Escot, Professeur de chimie et de microbiologie a l'Ecole nationale d'agriculture et de médecine vétérinaire du Perou. Cloth. Pp. 336, with illustrations. Price, 9 francs. Paris: Jules Rousset, 1909.

Nervous and Mental Disease Monograph Series No. 2. Studies in Paranoia. By Nikolaus Gierlich, Wiesbaden. Contributions to the Study of Paranoia. By M. Friedmann, Mannheim. Translated and Edited by Smith Ely Jelliffe, M.D. Paper. Pp. 78. New York: Journal of Nervous and Mental Disease Publishing Co., 1908.

Manuel des Maladies de L'Oeil, à l'usage des étudiants et des practiciens Par Charles H. May, M.D., Chef de Clinique et Moniteur D'Ophthalmologie a l'université de Colombie, New York. Traduit par P. Bouin, Professeur a l'Ecole de médecine d'Alger. Cloth. Pp. 428, with illustrations. Paris: G. Steinheil, 1908.

Report of Committee on Building of Modern Houses. By General George M. Sternberg, M.D., LL.D., Chairman of Committee. Paper. Pp. 111, with illustrations. Washington, D. C.: The President's Homes Commission, 1908.

Human Foods and Their Nutritive Value. By Harry Snyder, B. S., Professor of Agricultural Chemistry, University of Minnesota. Cloth. Pp. 362, with illustrations. Price, $1.25. New York: The Macmillan Co., 1908.

Manual de las Enfermedades de los Ojos para Estudiantes y Medicos, por Charles H. May. Traduccion por el Profesor C. E. Finlay. Cloth. Pp. 475, with illustrations. Barcelona: Salvat y C. aS. en C., 1909.

Cataract Extraction. By H. Herbert, F.R.C.S., Professor of Ophthalmic Medicine and Surgery, Grant Medical College. Cloth. Pp. 391, with illustrations. Price, $3.75. New York: William Wood & Co., 1908.

Klinik der Bronchoskopie. Von Hermann von Schrotter, Dr. Phil. et Med. in Wien. Paper. Pp. 688, with illustrations. Price, 20 marks. Jena: Verlag von Gustav Fischer, 1906.

The Medical Record Visiting List for 1909. Flexible Leather, with Pocket and Special Memoranda. New Revised Edition. Price, $1.50. New York: William Wood & Co.

Publications of the United States Public Health and Marine-Hospital Service. October, 1908. Paper. Pp. 16. Washington: Government Printing Office, 1908.

American Oncologic Hospital, Philadelphia. Third Annual Report for Year Ending Dec. 31, 1907. Paper. Pp. 46. Philadelphia: The Holmes Press, 1908.

Sleeping Sickness Bureau. Bulletin No. 1, October, 1908. Paper. Pp. 51. London: Sleeping Sickness Bureau, 1908.

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Original Articles

YELLOW FEVER AND THE MOSQUITO.*

J. H. WHITE, M.D.
Surgeon, U. S. Public Health and Marine-Hospital Service.
NEW ORLEANS.

From LeBeuf's historical notes on the subject we find that, appearing at Boston in 1798, at New York in 1789, at Philadelphia in 1699, at Baltimore in 1819, at New Orleans in 1701, and at many other points along the coast, and spreading to our interior, low-lying towns, yellow fever carried death and terror far and wide.

Considered at first a visitation of Providence, it was simply submitted to and all efforts were directed solely toward healing the sick. Considered later as a possibly preventable malady, it was combated by fumigation of all sorts, but with no apparent result; and finally that abomination of desolation, the quarantine of non-intercourse, was set up, doing far more damage than good. While checking perhaps in some slight measure of doubtful value the spread of the disease, it checked fatally the life-giving stream of commerce all through the south, while business went freely on in the north, which had meanwhile, during the first half of the nineteenth century, succeeded—as the accidental result of municipal improvements such as paving, drainage and water supply—in ridding itself of this almost perennial unwelcome visitor.

Who can say what untold millions are represented in the annihilated commerce of the southern tier of states as a direct result of epidemics, or what other millions represent the indirect loss in permanent commercial relations which found their best interest most naturally in our northern ports when all the south barred its doors for six months in every twelve?

Following as a perfectly rational sequel to the hideous barbarity of land quarantines since our Civil War, we find nearly all communities trying to conceal the existence of the first few cases of yellow fever. Their misfortunes having been punished as though crimes, what was more natural than that they should conceal those misfortunes even as a criminal would his misdeeds, hoping to keep them concealed until frost should come to their relief?

Pertinent to this discussion is another fact, namely, that many of the concealments just mentioned were undoubtedly the result of honest error in mistaking for malaria on the one hand and dengue on the other the first few cases of yellow fever; for let no man imagine that diagnosis is always easy in such cases. It may be that a few men like H. R. Carter and John Guiteras may diagnose all cases with unerring precision, but many there be who, even in the presence of a known outbreak, fail to recognize a mild case, and many more who, without knowledge of existing cases to put them on their guard, fail utterly to recognize a virulent type of yellow fever as anything more than a vicious malaria.

Again, a source of error on the other side of the account has been the mistaking of Dakar or Chagres fever at quarantine stations for possible yellow fever, and many ships have been held for days pending a decisive conclusion.

The errors made between dengue and yellow fever are so innumerable on both sides as hardly to need mentioning, and to-day, despite all our knowledge of the means of transmission and of the safety with which yellow fever can be handled, you have only to announce dengue in a southern city to have all the rest propose to quarantine that city and be in an agony of anxiety while investigations are made and the identity of the disease established.

It may be said that such confusion will do no harm, since we have learned how to take care of yellow fever; but it does infinite harm to the unfortunate yellow fever patient who, at the risk of his life, is freely dosed with quinin, or to the equally unfortunate Chagres patient who, needing quinin in heroic doses, gets Vichy and cracked ice, while the unfortunate community with a suspect within its gates gets a body blow to its business interests from which it takes a year to recover.

How can these confusions be avoided? The answer is simple—destroy all stegomyiæ, all anopheles, all culices. This we can do, must do, and will do, just so soon as public opinion takes full cognizance of the truth and acts on it—not sooner, for be assured that laws and regulations without public approval are "as sounding brass or a tinkling cymbal."

Theoretically, this elimination is an easy matter, since, through the splendid work of such men as Theobald, Howard and Giles, we are informed on every phase of mosquito life, but practically it calls for an infinity of detail and almost superhuman patience and perseverance.

Let us consider, first, the temporary amelioration of conditions arising from infection of the *Stegomyia calopus* and the *Culex pungens*, both practically domestic animals.

Assuming that we have a stegomyia infection in our community, we have to deal with two phases of the question: first, the isolation of all patients from any further possibility of being bitten; and, second, the destruction of all mosquitoes which may by the minutest chance have bitten the patient during the first three days of his illness, bearing in mind that we are now trying to kill possibly infected mosquitoes only and that the death of any others is merely incidental.

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* Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

We place a mosquito bar with eighteen meshes to the inch around our patient, screen every door and window opening into his room with the same mesh, close the fireplace with cloth or cover the top of the chimney with netting. We treat the whole house in this same fashion, and can then feel that the danger is confined and that we may proceed at our leisure to destroy the mosquitoes, having a fair margin of time before the infection in the insect becomes potential for harm to man—ten to twelve days. If need be, we can wait until the recovery of the patient, though it is better, if circumstances permit, to kill all insects in the rest of the house after the third day; then remove the patient quietly to a clean room and kill those in his room.

Many things have been suggested, but for absolute efficiency nothing save cyanid equals sulphur dioxid in 2 per cent. volume applied after everything in the room is opened up so as to uncover any hiding place, and the cracks in doors, windows and other places are carefully pasted over.

The sulphur dioxid gas should be applied in 2 per cent. volume for not less than two hours, though, according to Francis, in the hands of a skilful man 1 per cent. for four hours will do equally well and do minimal harm to dyes and fabrics.

If other houses are very close at hand, and especially if they have coincident windows and doors in close juxtaposition to the infected house, it is our custom to fumigate such houses also, though it is exceedingly doubtful if the infected stegomyia travels any distance. Where she finds shade, blood, moisture and a place to lay her eggs she wants little more.

A severe test of this unlikelihood of her traveling was made in 1905. The Louisville and Nashville trains leaving the city of New Orleans passed directly in front of the original infected area around the French Market, then down Elysian Fields Street for a mile, with rampant infection on both sides of the street, and went their way to the Alabama line, 116 miles distant. For about ninety miles through Mississippi they were occupied by guardsmen of the Mississippi National Guard, who acted as train inspectors and occupied the coaches with the passengers on these trains, going back and forth day and night, rain or shine, between the Alabama line and New Orleans, the same coaches always being used and nothing done to kill mosquitoes in them because those mosquitoes were not believed infected—which surely they were not, as not a single case of fever of any sort developed on those trains or among those guards. If the infected stegomyia travels, surely some must have gone aboard.

These facts are simply stated to show the uselessness of fumigating a wide district when we know our focus to be definitely located in one house.

The rules for killing *S. callopus* apply to the *C. pungens*, which in a lesser degree has become, like the former, a domestic animal. It is, however, necessary in this case to fumigate immediately and to move the patient as soon as a room is prepared and to continue the screening till the patient recovers from the dengue, since we are not assured of any well-defined infective period, as in the case of yellow fever. Graham continued protection in Beyrout ten days after recovery. Always fumigate near-by houses if possible, since this insect undoubtedly drifts further than the stegomyia.

Lastly, in this matter of partial eradication, we would in the case of anopheles infection fumigate exactly as before, except that there would be need to apply our screens until well after nightfall so as to catch the anopheles, which, for the most part, spends her day in the shrubbery or grass outside and only becomes sociable at nightfall, our procedure otherwise being the same.

It should always be borne in mind that the mosquito is a very small insect, capable of pushing into small cracks and under the impetus of sulphur dioxid likely to go as naturally to any opening accidentally left uncovered as water will to a leak in a jar. Therefore, cover the chimneys, paste paper over all cracks, search the windows and don't pull down the glass and leave a half-dozen able-bodied infectors between the glass and an outside wire screen to make you sick at heart some days later by producing another case of fever. Above all else in taking hold of an infected house, don't stir up things in the rooms, but go about the screening and pasting gently, softly. Don't drive your mosquitoes out; keep them in to kill them. Many zealous disinfectors have made this fatal mistake.

If circumstances will not permit the temporary screening of the chimney-top, then, on a bright sunny day if possible, soak a few papers in kerosene and stuff up the chimney and fire immediately, afterward pasting up the front of the fireplace before fumigating.

Perhaps these details are tiresome—so be it, but they are as necessary as asepsis is to surgery. They are the meat of the whole matter, and no effective work can be done without them.

For the permanent and complete elimination of all mosquitoes we must first acquaint ourselves with their habits and their habitats as well as the ways and means of destruction. The subjoined facts are gathered from the splendid work of Col. W. C. Gorgas, my brother officer Surgeon H. R. Carter, and Prof. John Guiteras and the writings of Dr. L. O. Howard, together with my personal observations and experiences in dealing with epidemic conditions.

The stegomyia breeds in dirty water only when she can not find clean water, and being a very delicate insect and exceedingly sensitive to hot sunshine, she requires that her breeding tank shall be still and dark. She will not use a natural pool for oviposition, but chooses artificial water-containers. Even when forced to the gutter for lack of a better breeding-ground, she seeks the gutter with sides and bottom of stone or wood. I know of no authentic case on record of any eggs found in natural pools. The place of election with her is the cistern; then the water-barrel, tub, bucket, shady and sagging points of roof gutters, old bottles under the bushes in the yard or under the edge of the house, old oyster and tomato cans, the fonts and vases in cemeteries, the church fonts occasionally, and in houses closed up in summer the bowl of the water closet, the traps of the plumbing generally, water left in pitchers, spittoons, etc., and, as reported by von Ezdorf, in the water partition of a small glue-pot—in fact, any clean or reasonably clean water. Failing this, she will use a dirty spittoon or even a cesspool, but not muddy water. She leaves the spot where she is born just as soon as she can fly and preempts quarters with the nearest human family, and there she lives indoors, like any other domestic animal, only paying an occasional visit to the nearest water-container to deposit her eggs. Except when taking residence at birth in a passenger coach, it is doubtful if she ever does anything in the way of migration, and it is practically certain that this is the limit of her travels after fecundation. According to Howard, she has, to a far greater degree than any other mosquito, learned man's ways, and hence is far harder to capture or kill than even the male of her own species. She not only lays her eggs all summer long, but also lays in October some batches to hatch in April, and herein lies much trouble.

The *Culex pungens* breeds in the identical situations chosen by the first-named variety, and, in addition, also breeds indiscriminately in any kind of water which may be available, either in gutters or natural pools, travels more between house and open air than her more domesticated cousin, and is easier to kill or take alive. Put a dozen of these insects with three or four stegomyiæ in a glass jar and you can readily capture the culices and will probably succeed in getting all of them cupped before you catch one single stegomyia, these latter seeming instinctively to get at the back of your hand just as, in freedom, they approach by choice the back of your neck or under your trousers, seldom making a frontal attack.

The three anopheles with which we have to contend in the United States, and whose habits have been so fully covered by Colonel Gorgas, all prefer a swampy breeding-place and will choose stagnant scum-covered water under the shade of trees and shrubbery if given a chance to do so. From this starting point they migrate, after hatching, to some clump of dank grass or shrubbery near a house, and from this point of vantage enter the house after nightfall in search of blood. They do not fly very high, and this fact gave ground for the old idea that houses built high were safer in malarial countries because noxious miasms kept close to the earth. It has been said that the second stories of the old days were practically exempt from malaria and the third entirely so. Be this as it may, personal experience has shown anopheles vastly more numerous on the ground floor than on that above.

Summing up all these facts, then, with the further fact that we intend to exterminate all kinds of mosquitoes, it is a natural corollary that we must destroy all breeding grounds of every sort. We should drain all pools absolutely and avoid leaving pockets in our ditches, or, should this be impossible, place cans of oil, according to Colonel Gorgas' method, about three feet above the water, dropping twenty drops per minute on the surface; or we can float on the surface of pools a few billets of soft wood soaked in petroleum, which will give off the oil little by little for a considerable period and make our oiling last longer than if simply applied to the water direct. For swampy pools covering considerable ground the crude oil is good enough. In the cases of pools which must be kept for watering cattle the edges must be made clean and sharp to avoid grass and weeds as a hiding place and the pool stocked with stickle-back minnows, which will destroy the larvæ and pupæ very effectively in clean-edged ponds, thus obviating the necessity for any other action. The new larvacide mentioned by Colonel Gorgas will supersede very much of this.

All undergrowth of every sort must be cleaned away around such pools as must remain, as well as from drained ground, and the sun must be allowed to give us its tremendous assistance as a dryer, for no mosquito seeks a bald and sunny spot as a breeding-ground.

While the drainage is in progress it is well to clear a wide stretch, 200 yards, of ground around houses subject to infection, thus destroying the daytime lurking ground of the anopheles. All street gutters should be carefully graded, furnished with smooth, hard bottoms, and sides kept cleaned so that they never can contain any save running water.

All roof gutters should have a gentle grade and be so firmly built as never to sag. Cheap construction should be forbidden by law.

All cisterns must be covered absolutely by either solid or screen material, and both inlet and outlet screened. We can not be too careful of our cisterns, since these, as before said, are the chief breeding ground of stegomyiæ and should be abolished wherever possible.

Barrels, tubs, buckets, pans, etc., must be emptied and scrubbed at frequent intervals, under penalty of their being forbidden. Simple emptying does no good whatever, as eggs and larvæ cling to the wood. All places in, under and around the house, every inch of the premises, must be rigorously policed in order that no chance containers may remain.

Public places—like churches, cemeteries, etc.—and business houses of all sorts, as well as factories and wharves, must be watched unceasingly, for churches and cemeteries may have neglected fonts, and business houses do have cisterns, old cans and broken bottles, and these are more apt to go unnoticed than such things around residences.

In the late fall the insect deposits eggs which, according to Dupré of Baton Rouge, remain in the water all winter until it becomes warm enough in the spring to hatch them, or if the water in an old tub, for instance, dries out, the eggs cling to the sides and bottom, and if that tub is filled in spring or summer time the larvæ appear in due season. This is probably the manner in which the stegomyiæ survive the winter in myriads, and the lesson therefrom is obvious: to make a vigorous war on the insect in late summer and autumn and to push the policing rules to absolute perfection at about the time of the first frost. We must not underrate our enemy, and to make effective war on mosquitoes we must have as inspectors thoroughly trained men, patient, sharp-sighted and persistent, with minds alert and capable of individual initiative. Such men can not be recruited from the ranks of the political "boys" around our cities. We must have men who have developed what Colonel Gorgas has happily termed an "automatic mosquito scent"—who become, because they love their work, so skilled that they recognize mosquito breeding ground by the same subconscious processes through which the sportsman instinctively knows where to seek game, and who "recognizes the varieties by flight, attack and resting form."

Because of possibly confused diagnosis every case of malaria should be traced to its origin as carefully as every case of yellow fever.

The history of every civilized community has demonstrated that advancing civilization ordinarily will destroy anopheles but only fosters the growth of *Stegomyia callopus,* just as it does mice and roaches, except when that civilization is of such an exacting sort as will have none but the best of everything.

We must, therefore, push forward, in addition to our specific fight on mosquitoes, the broader measures which shall render that fight a permanent victory. We need to drain every foot of our marshes and so destroy malaria both in country and in town. All the habitats of man must be so clean and dry that no breeding-ground will be found anywhere for the pestilential mosquito. Many southern cities have taken up this work and all, doubtless, will in time.

It would be folly to say that the work done in New Orleans is perfect, but I take a real pleasure in saying that the persistent efforts of the New Orleans City Board of Health for the last three years in maintaining the screening of cisterns and other water-containers, pending a good water supply and the concomitant necessities of paving and sewerage soon to be finished, has borne fruit in a greatly reduced stegomyia population. To the patient work in this direction of Dr. O'Reilly and his predecessor, Dr. Kohnke, all honor is due.

Broadly speaking, however, what we have as yet done to prevent yellow fever is little, save to quarantine our borders, a performance which, looked at logically, is on a parity with shutting up all honest people to protect them from thieves instead of eliminating the thieves. Granted that we must do this for the present—and it is beyond question necessary to do it until better measures are inaugurated—it is effective only as far as our coasts are concerned and does not, can not, give absolute safety on our land borders. Our seacoasts are protected by the most efficient maritime quarantine service on earth, but it is only a question of months when railway communication will be complete from Central America to the United States. It is complete now from our border down to Huixtla, in the state of Chiapas, Mexico, and a passenger can come from Huixtla to New Orleans in six days. One more day of railway travel will allow that passenger to come from San Salvador, and when the schedules get down to American standards and eliminate night stops, as they will in a short time after getting into good running order, one can travel from Salvador to New Orleans inside the incubative period of yellow fever, and can reach Texas well inside that period.

Now, let us assume that the border is watched either by our undoubtedly able and honest neighbor, Dr. Liceaga, or by ourselves, who shall say that a passenger may not cross the border on foot into Mexico from Guatemala or into our country from Mexico and take train as a local passenger? How can this be prevented? It would take the whole army to guard our Mexican border.

These means of ingress are constantly enlarging, nor must we forget that which every experienced sanitarian knows, namely, that the unsuspected point is the one that threatens us most. If we are watching a tropic port in full belief that yellow fever is there, I may safely say that port will never infect us; but if we sleep over our danger and believe nothing to exist, then, indeed, are we running a fearful risk. So long as one nidus of *Stegomyia callopus* exists in the tropics, so long must every person from that point be observed for six full days, as we do now observe them, utterly regardless of a clean bill of health; not detain them, mark you, but observe them; and all irresponsible people should be either barred or detained so long as we must still use quarantine as a weapon of defense.

As matters now stand, one of our best safeguards, and that a weak one, lies in the homely axiom of Carter, that "when a place has yellow fever to give away, it has a plenty." In other words, we are generally aware, though not always, of an outbreak in time to guard against it. But this applies to sea quarantine only and not to land work. In 1897 Montgomery, as her health officer humorously put it, "bottled up a dozen cases inside herself" when she quarantined Ocean Springs, and in 1905 Vicksburg and many minor towns did the same. These and other instances, some showing that infection undoubtedly went through the lines of a *cordon sanitaire* so strong that no community could possibly maintain it except in times of dire need, all tend to show that land quarantine is and always will be a broken reed to lean on and that in its last analysis the only rational preventive of yellow fever is sanitation, not quarantine.

I claim no originality in this statement.

On Dec. 4, 1895, Surgeon-General Wyman wrote a vigorous protest to the Secretary of the Treasury against the sanitary condition of the island of Cuba, bringing out strongly the very point here named, that the true solution of the question is sanitation rather than quarantine, which protest, but for the presence of a revolution in Cuba, would doubtless have borne fruit.

Following this, in September, 1896, the American Public Health Association adopted resolutions to the following effect: "First, it is the duty of every government possessing seaports thus infected to institute engineering and such other sanitary measures as will remove this menace to the seaports of other nations. Second, it is the duty of all governments threatened with an invasion of yellow fever from a seaport in which the disease is allowed to persist to make such representations to the government in possession of the threatening seaport as will induce it to adopt the sanitary measures necessary. . . . "

Again, in framing a plan of action for the International Conference of American States the Surgeon General called attention to the necessity of concentrating effort on "the one disease which jeopardizes the safety of 25,000,000 people, . . . imposes restraint on commerce, causes occasional depopulation of cities and financial distress or ruin," and particularly referring to Cuba, quoted from the report of the National Board of Health for 1880, in which Cuba is characterized as "disseminating, annually to other lands as from a central hell, disease and death."

Thus, years ago, he invited attention to the necessity for sanitation as the real remedy, and, by inference, to the fact that quarantine is only a temporary expedient.

Finally, then, what we must do and surely will do when our people awake, is:

1. Destroy within our own borders all disease-bearing mosquitoes.
2. Follow the advice of Surgeon-General Wyman given in 1895 in his letter to the Secretary of the Treasury strongly urging that Havana and all other then existing danger points be compelled to clean themselves.
3. Educate all our young physicians as profoundly as we can in entomology and in tropical medicine, remembering that it is no small part of the duty of the physician to educate his people in sanitation. The blind may not lead the blind.

No profession exerts a stronger influence over the people than ours, and we can not shirk this duty, which is plainly ours, and though not heralded so far and wide as the modern crusade against the great white plague, this crusade we invoke against the mosquito is fraught with equal import to our race, for when it can be said that the twin curses of the south, malaria and yellow fever, are no more, it can with equal truth be said that the physical stamina needed to fight phthisis has been increased by 50 per cent. If I may see the accomplishment of this, I will gladly paraphrase the words of the prohpet of old, and say, "Lord, now lettest Thou Thy servant depart in peace, for mine eyes have seen Thy salvation."

MOSQUITO DESTRUCTION IN THE TROPICS.

OCCURRENCE AND HABITS OF ANOPHELES; BREEDING-PLACES; METHODS OF DESTRUCTION; CONDITIONS THAT FAVOR ANOPHELES PROPAGATION; RESULTS OF ANTIMALARIAL WORK.*

J. A. LE PRINCE, C.E., A.M.
Chief Sanitary Inspector Isthmian Canal Commission.
ANCON, C. Z.

In preparing these notes it was originally intended to indicate briefly the methods of procedure in mosquito destruction during the antimalarial campaigns near Havana and on the Isthmus, as well as the stegomyia destruction work. It was later thought that a bare outline covering the more important part of such operations would be rather long. Therefore, the subject has been limited to the antimalarial campaign on the Isthmus. When referring to the tropics in this discussion we mean such conditions of climate and rainfall as occur in the Canal Zone.

ANOPHELES.

Of the many species occurring on the Isthmus the ones most commonly found are the white-footed species which include *Anopheles albamanus, Anopheles argyratarsus* and *Anopheles tarsimaculatus.*

Roughly speaking, where anopheles are numerous in houses at a settlement here, about nine-tenths or more of the specimens collected have been the above. The albamanus adults predominate, and roughly make up about half of the adults captured in dwellings. *Anopheles malefactor* and *Anopheles pseudopunctipennis* often occur also. It is most probable that all the five species mentioned are malaria carriers. They are always present when malaria increases, and when the adults disappear there is a corresponding drop in the malarial sick rate. This has happened time and again on the Isthmus during the three years 1906, 1907 and 1908.

OCCURRENCE AND HABITS.

While adult anopheles may be found in houses on the Isthmus at any time of day, as a general rule the best time to see them at rest and to take specimens is between sunrise and 9 o'clock.

Of course anopheles are more apt to be found in sleeping-rooms than in other parts of a dwelling, and as a rule are not present in uninhabited houses. Adults of species other than albamanus, argyratarsus and tarsimaculatus may be obtained more readily by obtaining anopheles larvæ and developing them in the laboratory than by searching for the adults.

The albamanus generally leaves the dwelling during the daytime. It is present and bites more readily after dark. However, it will bite voluntarily at any hour of the daytime, but does so mostly indoors or out of the direct rays of the sun. We have not yet any cases on record showing that anopheles will bite a person exposed to the direct rays of the sun. If anopheles are resting in vegetation near houses and such vegetation is disturbed, burned or removed, they will often seek shelter in the nearest buildings. This habit is common to other mosquitoes in the tropics. In a badly infested vicinity such a removal of the natural resting-place will send scores of mosquitoes into the nearby houses. It is not yet known whether the malaria-conveying anopheles, when numerous in a shaded area containing tall grass, brush and trees, will bite malarial persons resting in such places in the daytime, and remain in the vicinity long enough to transmit malaria to other persons that may come to rest, or sleep, in the same place in the daytime during the following weeks. It would seem as though this does take place, and, if so, it may have an important bearing on the status of malaria in the Canal Zone.

On the Isthmus some anopheles breed throughout the entire year. Of course, during the rainy season, which lasts from April or May to December, the anopheles are more numerous, as there are at that time more suitable breeding-places than from January to April inclusive (which period is known as the dry season). During this latter period a large amount of anopheles propagation goes on in streams and at the edges of the banks of rivers whose waters move too rapidly during the rainy season to be very favorable to the development of mosquito life.

At the island of Taboga, located in the Pacific and about nine miles from the city of Panama, very little, if any, malaria is present. There is not much communication between the city of Panama and this island except by the natives of Taboga, who come to the city to sell their fruit and generally return the same day or sleep in their small boats off shore. Most of the patients at the Taboga Sanitarium have been treated with quinin before arrival at Taboga, and are taking regular doses while at Taboga. In other words, there are some people at Taboga carrying the malarial germ in their blood, but not many. So far no anopheles have been noticed near the sanitarium. Toward the end of the dry season no anopheles larvæ can be found on this island, although they are present in the wet season, and it would seem as though the breeding season was more limited than is the case on the mainland. In other words, it would appear probable that the anopheles there have adapted themselves to the local conditions; that, for certain periods, the breeding stops until conditions for propagation are more favorable. Now it should be stated that Taboga Island is about three and one-half miles long by one and a half wide, has about one-half the rainfall of the mainland Pacific slope, and the air is much dryer. It is very hilly and has two streams that run down the hillsides throughout the year and other breeding-places in wet season. Naturally, in the Zone, during the dry season, as the shallow swamps dry up and the seepage water stops trickling from the hillsides, the anopheles change their breeding-places to the hillside streams which during that period contain many pools. They continue to multiply in such streams, which are identical in character with the streams at Taboga. The streams at both locations become less rapid as the dry season advances. In the mainland streams the number of breeding-pools or breeding-areas increases as the water gets warm and sluggish, and at Taboga, although anopheles are present on the island, we do not find larvæ in the streams in the dry season.

It should also be stated that we have recently taken anopheles larvæ from brackish water that contained up to 90 per cent. of salt water (sea water). These were obtained in the month of April, 1908, at Miraflores, a point about six miles or more inland from the Pacific. The tide level on the Pacific side at Panama varies eighteen feet or more. These anopheles were taken at the mouth of a stagnant river, into which the tide water entered at a time when it had practically no current. There had been no rain, and all evidence points to the

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[*] Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

fact that the eggs were depositd near or where the anopheles larvæ were obtained. Once, during 1905, it was reported that anopheles larvæ and pupæ had occurred in decidedly brackish water at Colon, within a mile of the Atlantic seashore. This was reported in the rainy season and a check examination of the breeding-place gave negative results. A very heavy rain had washed out the place where the anopheles were reported to have existed. Just what bearing this matter of possible development of anopheles larvæ in brackish waters containing upward of 50 per cent. of salt water would have on the malarial situation here is difficult to state, but it is well worth investigation. It may occur regularly at certain seasons only.

BREEDING-PLACES.

I have never had the opportunity to study and investigate methods of mosquito destruction in northern climates, and in forming an opinion of such work I have had to rely on a few written reports that I have been fortunate enough to obtain. On the whole, it would seem that the eradication of anopheles-breeding areas in the temperate zone and northern latitude is a much more simple matter than similar work in the tropics.

In the north the following conditions favor extermination:

1. The breeding season is short.
2. There is a period of drought in the middle of that season.
3. Growth of aquatic vegetation, algæ and grass is relatively slower.
4. Frequent cleaning of open ditches is not so necessary as in southern climates.
5. The rainfall is not heavy—relatively long periods occur between rains, hence the number of breeding-areas is relatively small.
6. The breeding-places are more accessible and easier to locate.

In the tropical and semi-tropical countries the destruction of mosquitoes is more difficult for the following reasons:

1. The ovidepositing continues each month throughout the year. The adults, generally speaking, are more numerous in the wet season (the wet season is May to December inclusive), because there are more breeding-places, which are favorable to complete development. In the wet season the breeding-areas seldom dry up. On most flat areas the soil becomes water-logged, vegetation grows rapidly and prevents evaporation of pools and also hides depressions in the land that contain anopheles larvæ. Then, too, a cow or horse grazing on such land leaves hoof-marks from two to six inches deep, which retain water in which anopheles larvæ may be found. Flat lands and low lands are thus troublesome for about eight months of the year.

2. During the rainy season the periods between rains are short. In comparing the antimalarial work in the north with that of the tropics, let it be assumed that our dry season corresponds with the summer season of drought of the United States. In the dry season here, which lasts about four months, and toward March and April, the small streams dry up and the larger streams and small rivers become sluggish. At this season the anopheles suit themselves to local conditions, and these large streams and small rivers which have become more or less stagnant become simply alive with anopheles larvæ. We thus have a large crop of female anopheles on hand at the beginning of the wet season. The original settlements and camps near which the Isthmian Canal Commission camps have been located were nearly all located near streams so as to have a convenient water supply. The country along the line of the canal is supplied with many streams which drain into the Rio Grande, Pedro Miguel, Comacho, Bas Obispo and Chagres rivers. These rivers pass close to the settlements along the line of the canal, and such settlements which are not far distant from one another, extend from Gorgona to Miraflores, a distance of about fourteen miles. Also it should be stated that water seeps from the sides of the canal excavation, and this makes a continuous collection of water in the bottom of the canal. Throughout the dry season, therefore, we have any amount of favorable breeding-ground in the canal bottom for a distance of from ten to fourteen miles at the present time, and the possible breeding area will increase as the construction of the canal progresses. In other words, and briefly stated, this means that anopheles propagation continues without much interruption throughout the dry season in the Canal Zone, in an area where about 70 per cent. of our employes and their families live. In fact this propagation of anopheles in the dry season is a very serious matter, and during past years the malarial sick rate at the settlements at Las Cascadas, Bas Obispo and Gorgona, where about one-third of our employés and their families then resided, was much higher in the dry season than in the wet season.

3. I have read of many instances in which apparently satisfactory mosquito destruction work has been accomplished in the United States by means of open drainage ditches, and, moreover, that such ditches gave satisfaction if cleaned out in the early spring, and once or twice during the summer. It is assumed that this means that such open drainage ditches need attention from two to four times a year only, during the six months, April to September. On the Isthmus and probably throughout the tropics, under average conditions, we could not consider such a mode of procedure, as it would give most unsatisfactory results. Such a ditch would become a veritable Mecca for anopheles. Assuming that the first rains of the wet season begin on May 1, then by May 15 we shall have probably from three to ten inches of grass in many ditches that were free from vegetation on May 1. The vegetation will retard the flow of water appreciably and anopheles propagation will soon follow. It should also be noted that the direct sun-rays enter the ditches having a general east-and-west course, and the bottom of all ditches are more exposed to the sun's rays, and for longer periods daily, than would be the case in northern latitudes. It must be remembered that raising the temperature of the water favors the rapid appearance and growth of algæ. As a general rule, a body of water containing green algæ affords breeding-places for anopheles. When such algæ are found in a stream, pond or ditch the larvæ of anopheles are generally to be found also. Apparently, the small fish and other natural enemies of the larvæ can not penetrate the algæ. We often find pools, ditches and edges of streams well stocked with fish which will readily take larvæ thrown to them or larvæ frightened away by removal of the algæ. But when sufficient algæ are present the mosquito larvæ thrive and live protected by the algæ growth and apparently the fish can not get at them. At all events large numbers of small fish that prey on larvæ and anopheles larvæ live in the same pool, ditch or stream, and the fish have no apparent effect upon the number of anopheles larvæ as long as the algæ are present. If the algæ are removed a new

full growth of algæ will often replace it within less than a week. These algæ are most troublesome. If a bunch of the growth is detached from the bank and pushed out into the stream the anopheles go with it, and finally it comes to a resting place. There may be many fish in the water through which the algæ float, but they do not succeed in getting many of the larvæ. The female anopheles seems to know that her young need protection, and she is evidently careful about the selection of the place where the eggs are to be deposited. The eggs are rarely, if ever, deposited in a fresh pool of water, or in water, unless algæ, grass, small stone or some other protection for the young larvæ is present.

4. In order to keep a ditch of low grade or a stream perfectly free from vegetable growth and algæ, so that the fish may have access to all parts of it, it would be necessary carefully and properly to clean out such a ditch or stream about every ten days. As we have had many miles of streams and ditches near settlements, the process would be excessively expensive. Our available labor is not intelligent, and consequently the cost of supervision is expensive or the work is badly done. With several rains a week, and with periods of two weeks at a time when we have showers almost every day, the rate of growth of vegetation in open ditches is exceedingly rapid. Such conditions probably occur only in tropical and subtropical countries.

5. On the Isthmus the rainfall is heavy. The periods between successive rainy days are short and during the rainy season the suitable breeding-places for anopheles are very numerous. The average rainfall on the Atlantic slope is 180 inches per year. The average rainfall on the Pacific slope is 80 inches per year. With excessively heavy rainfalls during a more or less continuous rainy period, the ground on the lowlands becomes more or less saturated with water, and small depressions in the ground become water-containers. The water is replenished before evaporation is completed, so that each such depression often remains a mosquito-breeder. The grass grows rapidly and helps to prevent evaporation, and also makes the location of all breeding-places difficult to find. You may readily imagine the difficulty of using ignorant labor on this class of work. On the Isthmus our laborers are not of a high order of intelligence, to say the least, and can not be left at work without supervision. As a rule, they take very little interest in sanitary matters, and but few are interested in the tasks they are directed to accomplish. The rain-water that falls on the hills is sufficient at times to cause seepage to occur on the flatter slopes toward the base, as well as on the benches on the hills. Often the rate of seepage exceeds the rate of evaporation for several weeks or more, and anopheles larvæ and pupæ are found on the hillsides and in places where such seepage occurs. The place or exact locality where the seepage crops out depends on the rate of rainfall and on its continuance. As both of these are variable quantities, the location of the places where anopheles larvæ occur will change from month to month. The inspection of and search for possible breeding-places must be extremely thorough before successful extermination can be accomplished. In 1907 we found anopheles larvæ occurring in seepage water on hillsides which had produced practically no seepage during the corresponding seasons of the three previous years. During very wet periods it is never known where the breeding-places will crop up next, and, consequently, we must be on the *qui vive* continuously. A small depression, even if only half an inch deep, provided it is kept supplied with water by seepage from the land above it, is sufficient for the propagation of anopheles.

6. While, in northern latitudes, the rainfall during the short mosquito-breeding season is relatively light, in the tropics the rainfall near the seacoast is heavier and more continuous. As a result, we must either keep the grass and brush, or jungle, cut short in order to locate the breeding-spots and assist evaporation, or else run the chance of passing by important breeding-areas which would mean unsuccessful results. In certain fertile lands vegetation will grow to a height of twenty to thirty inches or more per month in rainy periods.

METHODS OF MOSQUITO DESTRUCTION.

The methods used in the Canal Zone are the following: Fumigation, use of crude petroleum, use of larvacides, use of open ditches, blind drains, filling, tiling, and clearing of jungle.

Fumigation.—When the local breeding-places have been destroyed, and the necessary clearing of vegetation or jungle accomplished, if the anopheles persist in large numbers in houses or sleeping-quarters, they are killed by fumigation. We fumigate all sleeping-cars of construction trains leaving a malarial district. Before this was done it was not an uncommon thing to find large numbers of gorged anopheles in sleeping-cars of construction trains on arrival in a new district.

Crude Petroleum.—There are the same objections to the use of crude petroleum here as occur in the north, and also additional ones. The dense vegetation that occurs at the edges of ponds, ditches, etc., does not allow the oil to get at the places where the larvæ are present. The heavy rains wash the oil away—sometimes all of it. The oil unites with the algæ and forms a mat which sinks and at times leaves the surface free of oil. Even where oil is present on the water, or where sufficient is found to form a thin film in the cup used to dip out samples of water, well developed larvæ have been found living in such water several days after the oil was supplied. By mixing a little crude carbolic acid with the crude oil much more satisfactory results are obtained; but care must be taken, as there is a possibility of such water being used by natives.

Larvacides.—Phinotas oil is a preparation which is a most effective larvacide for us in the tropics. In doing work on a large scale and having to use native or other unintelligent labor, the cost of transportation of crude pertoleum is very high. In fact, at times it costs here from one to two times more than the oil itself, depending on difficulty of transportation. In using phinotas oil, of which a little goes a long way, this transportation charge is cut out, and a laborer can carry with him enough to last him for about three or four hours' work. under such conditions of distribution of breeding-places as occur here. In the Zone we obtained fair results with the use of crude oil, good results with use of oil and carbolic acid mixture, but we had to be very careful in using the latter, and generally to use it just before a heavy rain, and to see that nobody used the water in which it was placed. With phinotas oil we get very good results, especially in still water. Our anopheles larvæ occur here in large numbers in streams having varying rates of velocity. The volume of water in the stream changes, the banks are rough, sometimes practically flat, and at places almost vertical. The location of the bed of the stream or small river changes. Some of the streams have rocky sides and rocky or stony beds. In most streams fish are very plentiful and they eat some of the mosquito larvæ. In many cases we have cleaned the banks of rivers of vegetation and all algæ; small larvæ-eating fish have been present in large numbers, but many of the anopheles larvæ take care of themselves and live in spite of the fish being present. They hide under small stones and in the mud. The fish miss so many of them that we can not rely on fish here, if we expect to reduce the larvæ to a minimum. The smallest of these same fish (one inch long and larger), if placed in a jar of water containing larvæ, will take thirty or more in twenty-four hours, and yet in the streams they can not accomplish the results that we are expected to, and are achieving. Laboratory and field experiments with phinotas oil and other larvacides give completely different results, and the local conditions of climate, growth of vegetation and algæ, temperature, rainfall, topography, natural drainage systems, and quality of water and soil, have to be given proper consideration. We are obtaining good results in using phinotas oil in running streams by making weekly applications of phinotas. On the fifth or sixth day after application very young anopheles larvæ are again quite numerous, but careful examination fails to show the presence of well-developed larvæ when the application is properly made. Of course, all depends on the interest that the inspector takes in this work, and it is impossible to give too much interest to this matter. Unfortunately, we kill the fish by this operation, but then on the other hand, as the fish can not perform the desired results which we are otherwise accomplishing, they have to go.

Open Ditches.—Surface ditches are good here when shallow, provided conditions of grade, character of soil, etc., are such that said ditches will become dry very soon after the rain has stopped, and provided the heavy rains will not form deep depressions therein. It is not uncommon here to find new holes several feet deep in ditches that have withstood the effect of previous rainy seasons. If the character of soil is such that water will constantly remain in a low-grade ditch for two weeks or more, such a ditch is often an expensive and dangerous one. The fewer ditches of this character the better. In fact, on gently sloping or nearly flat ground, any system of parallel branch ditches leading into a main ditch would be a good system for Panama, if the object was to try to breed a maximum of anopheles in a minimum of time. Under the general conditions of soil, rainfall and temperature that exist here, it is most advisable to get along with as few open ditches as possible. In fact, ideal conditions would be to have none at all, except stone-lined ditches with mortar finish at the bottom. Subdrainage by tiling is the most economical method. In the north it might be advisable to use narrow ditches, about six inches wide, and about twelve to twenty-four inches deep, properly cut to grade. Here, in the dry season, large cracks, often two inches wide, occur in the ground, and the sides of ditches collapse. So a ditch of this character will block itself up, and ultimately the banks will take their natural slope. Again, in open ditches, we have the everlasting question of tropical growth, making it necessary to clean out the grass about every two weeks. We must clean out the vegetation, or use very large quantities of oil or other larvacide. The process is too expensive.

Blind Drains.—A blind drain is practically a miniature culvert covered with field stones. Before we were able to construct tile drains we used blind drains where plenty of field stones and loose rock was available. Such drains gave fairly good results. Early in our mosquito campaign we found that it was essential to remove the jungle near settlements, and to remove loose field stones. We dug ditches, laid flat stone on the bottom of these, then placed a stone at each side and a cover-stone on top. Above this was piled other stone. Smaller stones were again placed above this. Some ditches thus made gave satisfactory results for a period of three years, with no cost for maintenance. Several clogged up on one or more occasions and had to be made over again in spots. Where plenty of stone is available and must be removed from a field, this form of ditch is economical to make and, in the tropics, much more economical to maintain than an open ditch is, while anopheles larvæ do not occur therein. The boxes or openings in these blind drains that we used were about 6 by 10 inches, or of less area. The storm-water ran over the top, and within a few hours after the rain ceased all water was beyond access for mosquitoes. Although some of the blind drains were completely covered with vegetation and some soil, yet they performed their functions in a satisfactory manner. We opened up some of these drains when the flow of water in them became sluggish, but found no mosquito larvæ therein. The advantage of this type of drain is that there is no first cost for material, the field stones are disposed of, and there is no cost of maintenance except when the ditch clogs up. A good grade is essential for blind drains, and they will stand on a fairly heavy grade.

Filling in of Low Ground.—Whenever available, porous material, such as ashes or gravel, should be used, if the filling is to be made for mosquito destruction purposes only. It may happen that water seeps out on a hillside at different levels. If porous material is available, the mosquitoes can then be kept away from the water, which need only be kept a few inches underground. In filling low ground which is kept wet, or on which the water comes from higher ground, a ditch should be located and made sufficiently deep to cut off the subsurface water supply. Under certain conditions, if this is not done, we may fill in as much as two feet (with loose soil) above the original water-line, and yet water will ultimately ooze out through the new fill we make, even though there be a ditch through the middle of the newly made fill. It should be remembered, that, though the hillside surface is dry, there may be a constant flow a foot or more underground and we find here many instances where the low ground and ponds between hills are kept wet by this means.

Tile Drainage.—The use of tile drainage is the most economical and permanent method of destroying anopheles in the tropics. The work costs about 16 to 20 cents a foot and upward, according to the depth of trench, material to be excavated, and distance that the tile and covering stone has to be carried. Where there are no roads and transportation is difficult, or where rock is scarce, the cost per foot will run higher. The cost of tile in the United States is about as follows:

4-inch tile,	$ 30.00	per 1,000 feet.
6-inch tile,	55.00	per 1,000 feet.
8-inch tile,	90.00	per 1,000 feet.
10-inch tile,	135.00	per 1,000 feet.

In nearly all cases in the tropics, where the rainfall is heavy and vegetation is rank, it is more economical and satisfactory to tile-drain than to maintain open ditches, and the actual results in decrease of anopheles and of malarial fever where tiling is used speak for themselves. There is always an uncertainty about the results of drainage by surface ditches. A properly laid tile drain, as a rule, does not cost as much as an open ditch would cost to make, and to maintain absolutely free from anopheles larvæ for twelve months, in that part of the tropics where the rainfall is heavy. These tile drains, if given a flatter grade than 0.5 per cent., are apt to silt up. We have constructed some tile drains having as high a grade as 5 per cent. and covered them with plenty of stone to hold the tile in place. No failure has occurred in this grade. With light covering such tile would wash out. Where the grade of stream is very heavy it is often best to flatten the grade of the tile line and let it come to the surface at several points. The end of each one of a series of such lines of tile may end in a roughly made stone wall. The water can be made to discharge onto a stone floor at a lower level, and from there the water runs into the next line of tile. Tile-drainage systems here are not designed to take off all storm-waters. The bottom of the ditch is but slightly wider than the diameter of the tile, and is cut to true grade. The tile is laid in the bottom of the trench. If the bottom is soft it may be made satisfactory by ramming stone into it. If it is very soft and permanently wet, then wooden planks may be laid under the tile, but the tile must break joints with the planks. When the trench or ditch is completed the sections of tile are laid with the joints about touching, or with not more than about one-eighth of an inch clear space between successive joints. Also T's and Y's are located where necessary for branch tile lines. On very flat grades tile should not be used, and where open ditches of this character become a menace to health roughly-made stone ditches with mortar finish at the bottom give satisfaction if kept to grade. Above the tile in tiled ditches we place stone of all sizes, and on top of this stone filling we generally lay smaller stone to prevent earth from clogging up the small openings between adjacent tiles. The last stone covering, or stone nearest the surface of the ground, forms the bottom of the ditch, in which the storm water flows. The trench made to hold the tile is not filled up even with the original ground surface, but generally up to about one foot below the ground surface. At times of very heavy rain the tile may run full, the spaces between the cover-stone may be full of water, and in addition there may be more or less water running over the top of the cover-stone. Very soon after the rain stops all the water finds its way into the tile. As previously stated, care must be taken of the water seeping from the hillsides, and in order to cut off this water it is necessary to run one or more tile ditches to grade and more or less parallel with the contour of the seepage outcrop. In many instances this tapping of water sources makes the ground in low spaces become dry and drainage or filling of them becomes unnecessary, as the surface of the low ground is then higher than the water line in the tile. In hollows, between hills that carry large amounts of seepage water, even if the space between the hills is only ten or fifteen feet wide, it often happens that a ditch in the center of such a hollow will fail to drain it completely. Tile lines following the side of the hill will do the necessary work, provided the planes of seepage are pierced by the tile trench. At times, in order to get the required grade, it may be necessary to carry some tile lines as deep as nine feet under ground for short distances. Work of this character rapidly increases the cost of tile ditching work. Tile drainage can not be done at random. The whole drainage scheme for any one district should be properly planned, levels taken, grades established, and an approximate estimate of the cost of the work considered before any work at all is undertaken. The ground must also be gone over in the wet season in order that the conditions that will naturally exist at that period may be appreciated.

Clearing of Vegetation.—All authorities agree that during time of heavy wind mosquitoes seek shelter. As a rule they then rest in tall grass or brush. It would appear as though this matter of shelter or of resting places is of much greater importance than is generally supposed. There is no doubt but that it is of vast importance in antimalarial work in the tropics. If we have a settlement surrounded by tall grass or heavy brush, even though we destroy all near-by breeding-places, the adult anopheles often remain present for quite some time. If we remove all vegetation within 200 yards or more of the houses, as a rule, we have the following results: Directly after the clearing it is common to have an unusually large number of anopheles and other mosquitoes come to the houses. These gradually disappear, and then afterward they become far less numerous than they were before the clearing was made, provided the grass is kept short and provided no near-by breeding-places are neglected. But along the edge of the clearing so made mosquitoes will continue to be present for quite a long time. Aside from this question of getting rid of adults, the clearing of jungle is essential in order to locate all small breeding-spots which may occur in different localities from time to time. It also prevents water-containers being hidden in the grass, such as tin cans, etc., and hence prevents the occurrence of stegomyia. With heavy jungle near houses, or even with tall grass present, we are never sure that all small breeding-places have been located. There occur short periods during which the ground may become wet and very soft. Such local conditions may last for a period of three weeks only during an entire year. It is the small breeding-places that are apt to be overlooked. The sanitary service of the Canal Zone extends over a territory forty-two miles long, with houses, camps and settlements scattered along the entire length and there are many places that have to be watched.

RESULTS OF THE ANTIMALARIAL WORK ON THE ISTHMUS.

Several years ago the outlook was not very encouraging. The malarial sick rate at certain camps ran high and many cases of malignant malaria occurred. In fact, at some settlements, in addition to the light cases among the laborers, which were kept for two or three days in the local "sick camps," we also sent to the hospitals as many as 10 per cent. of the working force during weekly periods. These cases were of more severe types of malaria than those kept at the sick camps. Such a sick rate as this interfered largely with the work of canal construction. At one settlement in the Gorgona district where this occurred the malaria has since been very largely reduced, and in April, 1908, out of over 1,100 employés, during a period of twenty-eight days, but ten hospital cases of malaria occurred. The ratio of reduction, if weekly periods were considered, would be about as 110 is to 2.5. Of course this is an exceptional case, but also it indicates what it is possible to accomplish under adverse conditions.

In carrying on an antimalarial campaign there are times when results look very discouraging, but success is generally possible. There was one case in which all breeding places were under control, and several careful and most thorough searches failed to locate a single anopheles breeding-place within a quarter of a mile of the infested camp where adults occurred. They remained for about three months and then disappeared. Strangely enough, the disappearance of anopheles and the marked decline in malaria occurred at the beginning of the rainy season. This is the time of year when we always get an increase of adult anopheles at our camps. It is difficult to give an exact reason for what occurred. I am inclined to think that the anopheles had previously come from near-by breeding-places and remained in the vicinity, although apparently no near-by breeding-places remained. More recently we had a somewhat similar state of affairs at San Pablo, except for the fact that the anopheles present in the daytime in this case were fewer and the malarial sick rate lower. The fact is that the anopheles remained and the malarial cases persisted, apparently in spite of the absence of local breeding-places. In each of the two cases cited the malarial sick rate dropped soon after the disappearance of the adult anopheles from the vicinity of the camps in daytime. At the present time the type of malaria occurring in the Zone is much less severe than in former years, and, moreover, the cases of malignant malaria are relatively small in number.

We have installed considerable tile drainage during the past year and the results of such work are exceedingly satisfactory. The malarial situation in 1907 was a vast improvement over that of 1906. So far this year, aside from light cases at the local sick camps, the percentage of employés sent to the hospitals with malaria averages about 75 per cent. less than during January to April, inclusive, of last year. This is for the territory between La Boca, on the Pacific side, and Gatun, where the locks are to be built. This territory is forty-two miles long and Gatun is about six miles from the Caribbean Sea. At the end of April, 1908, we had the lowest weekly sick rate yet reached. During the week ending May 2 only one malarial patient was sent to the hospital for each 1,000 employés at work.

A very good illustration of the results that may be achieved, under very trying circumstances, by the combined effects of tile drainage, clearing and use of larvacides is the work now being accomplished at Porto Bello. A laborers' camp was started at Porto Bello (which is located about twenty miles from Colon) on about the first of the year. Mr. Henry Simms, our sanitary engineer, who planned and installed a large part of the tile drainage work in the Zone, took charge early in March. At that time about 15 per cent. of the force were in the hospital with malaria each week. For the week ending April 28 the malaria hospital sick rate had been reduced to 6 per cent. We have every reason to believe that within less than a year Porto Bello will be as free from malaria as any settlement in the Canal Zone.

Isthmian Canal Commission, Department of Sanitation.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. LE PRINCE AND WHITE.

Dr. Walter Wyman, Washington: I attended the International Sanitary Convention of the American Republics in Mexico last December, and I was surprised to hear the president of the Superior Board of Health of Mexico declare that they believed that they had eliminated yellow fever from their republic. He emphasized the statemnt by declaring that the forces which had been used in the elimination of yellow fever—clerical force, officers in the field, and equipment—were now being devoted to the elimination of malaria. It struck me that this signalized a stage of very great progress in the elimination of epidemic diseases. The Mexicans are earnest and scientific in their work, and I have no doubt will eventually be as successful with malaria as they have been with yellow fever, and what has heretofore seemed to be almost impossible will, in the course of a few years, have been proved possible. As you all are aware, a victory over malaria will be quite as great a victory as that over yellow fever. Dr. White's paper brings out very distinctly the point that we must get rid of yellow fever forever by eliminating it from all the ports where it prevails in the western continent. It is peculiarly a disease of the western continent, and I am happy to say that the International Sanitary Conventions, which are held every two years by the American Republics, are having a marked influence in the Central and South American republics. The people there realize that the conditions which perpetuate this horrible disease of yellow fever must be done away with; that any sanitary work done to eliminate yellow fever will also tend to remove the cause of many other diseases; and that if they can eliminate one disease they can eliminate the others. The next convention will be held in Costa Rica in 1909. In Rio de Janeiro they have made great progress in sanitary matters, and it seems to me that the influence of the sanitary conventions is more needed and will be productive of more good in the smaller republics with their numerous small ports than in the larger republics with large ports, such as Rio de Janeiro. When the governments of these smaller republics, like Salvador, Guatemala, Honduras, and Costa Rica and Ecuador are induced to sanitate their ports and do away with conditions which breed mosquitoes and develop yellow fever, we shall then not be alarmed when the railroad trains come through from these places and make quick connection with the United States. I think that the outlook is very encouraging, and that within a quarter of a century a great deal of this trouble that we are discussing now will be a matter of history.

Dr. Seneca Egbert, Philadelphia: The mosquito does not bother us in the north very much, though we are glad to know how to get rid of the pests, as they disturb our summer vacations. But the public should be educated to the fact that we can fight disease by material means and that disease is a product of material factors; that typhoid, tuberculosis and other diseases come from germs; that the mosquito bears the disease germ, and that if we put him out of business he will cease bearing the germs, and that we do not need Eddyism. General knowledge of victories such as we have had in New Orleans will wipe fallacies like Eddyism out of existence. After a while people will learn that they can not afford to believe in Eddyism or any theory that does not take into consideration actual factors of disease. I accordingly believe that one of the most important influences that organizations of this character serve is the education of the public.

Dr. John Pitt Matthews, Carlinville, Ill.: One of our American boys went down to the Canal Zone and contracted yellow fever, but survived the attack. Colonel Gorgas appointed him one of his inspectors. When he came home on a furlough he taught the whole town and that part of the country that malaria was due to the mosquito. He had placards and pictures of the mosquito in the different stages of development of the larva and the mosquito itself. I demonstrated some of these pictures at the county medical society, and showed that our Egypt down there was infected with the same malaria and the same mosquito that was causing trouble in the Canal Zone. My father, who has been in the practice of medicine for forty years, says that forty years ago the curse of the country was the malarial infection from the farms that had just been plowed and brought under cultivation. Everybody shook all the time from malaria. The draining and improvement of the farms has eradicated malaria from our section.

Dr. George B. Lake, Wolcottville, Ind.: The public in general does not yet realize that they need the information that we are ready to impart; and for the next few years, until they begin to realize that we have something important to give, we must compel them to listen. Then they will come to us.

Dr. O. C. Breitenbach, Escanaba, Mich.: The grand achievements of prophylactic medicine in the prevention of yellow fever and malaria and kindred tropical diseases, largely through the Public Health and Marine-Hospital Service, have been made possible only by the fact that this work has not been subjected to political despotism. Education is important and necessary in the eradication of preventable diseases; and yet it seems to me that the greatest stumbling block in American cities and smaller municipalities is the political ring. The local health officer, a great factor in the field of prophylactic medicine, is often prevented by political influence from doing his duty. Not until public health work shall be divorced from politics will efficiency in this department inspire respect and praise. There is, however, ground for hope. Grand Rapids, Mich., and many other larger cities, by making the health commissioner irremovable as long as he does his duty, have inaugurated a movement that I trust will be an incentive to other communities. Mayor Busse, of Chicago, submitted the vacancy in the office of health commissioner in Chicago, which was not under the control of a civil service board, to the Chicago Medical Society and a committee of prominent business men, to be filled by the candidate nominated by them. He accepted their nominee, Dr. Evans, although differing with the latter in politics. Chicago to-day is proud of the work that Dr. Evans is doing, and his sanitary crusade is notable. We all strongly feel the necessity of divorcing public health work from politics. Until this reform is accomplished all sanitary progress will be hampered.

Dr. E. L. Munson, Fort Sheridan, Ill.: It seems to me that Dr. Wyman's point with regard to the necessity of cleaning up yellow fever plague spots could be strengthened by adding a time limit. This time limit could not safely be extended beyond the time of the completion of the Panama Canal. The necessity for keeping yellow fever out of the orient, I think, was brought out several years ago, and its importance has probably struck every one who has had to do with sanitary work there. The handling of yellow fever in this hemisphere is unquestionably a tremendous task, but at least it is possible; but I believe that the control of yellow fever transported to the orient will prove a task almost impossible, because of superstition, caste feeling, racial dislike, and other factors. It is important not only to clean up all the yellow fever foci on this continent, but to clean them up as quickly as possible, and before the means of transportation have been improved and the time of communication shortened, else we shall have to fight it coming back to us from the Philippines, from southern China, and possibly a large part of the tropical orient. It should be a relatively easy matter to prevent it from getting in—an enormous task, but possible—and I think that we ought to use every means possible to induce the infected parts of South America and the West Indies and Central America to abolish the yellow fever infection from their borders by such time as direct communication with the tropical orient through the Panama Canal can be accomplished. The next eight or ten years constitute about the limit of time that we can afford to tolerate these active foci of yellow fever.

Dr. H. B. Hemenway, Evanston, Ill.: The only way to control any communicable disease is by authority, whether municipal, state or national. The first point in the study of any of these diseases is the collection of accurate data, which are hard to get. The representative of this Section in the delegate body should urge that the Association at this time pass resolutions in favor of a national department of health. A great political gathering will be held here in a few days, and it would seem that when the delegates come and see the evidences of the strength of the medical profession it ought to impress them as never before, and they ought to be willing at least to introduce a plank in their platform relative to a department of health. The work which Dr. Evans, for example, has been doing here in Chicago, is an illustration of what one man, the right man, can do. A man who is willing to devote his whole time to that kind of work is worth a great deal more than any community is willing to pay him. A United States senator from a sister state wrote recently that his attention had been so much occupied in studying law and politics that he had not had time to consider anything relating to the public health. Again, in the city in which I live, the attorneys of the city are paid $3,300, while the Commissioner of Health is paid but $600, and he is the only medical man connected with the city government. Within a year we have had demonstrated the absolute necessity, not only for the examination of milk itself, but the examination of the origin of that milk. That is expensive, yet the city council has managed to cut down the appropriation for the milk examination to $150.

Dr. Laura A. C. Hughes, Boston: The only way to educate the public is in the matter of prophylaxis. Authority is helpless. We have laws for all criminals, and yet we have a great deal of criminality. In Boston we are endeavoring to do something in that line by giving in the high schools some instruction in preventive medicine. We give minor instruction in bacteriology, teaching the classification of the bacteria, and some of the diseases that are likely to result from the different bacteria. The teachers take up this matter readily, and become much interested, as, for instance, in the *Bacillus tuberculosis*. In teaching about the rod and spiral coccus and some of the diseases which arise from the different germs we find the common people much interested and much more careful not to spread the disease. They are more willing to cover their milk and cream. We have not the yellow fever and malaria so much to contend with, but we have the mission of educating the people in simple matters of bacteriology. This, to my mind, is helpful in preventive medicine. It is just as applicable in the north for tuberculosis and scarlet fever, etc., as it is in the south, and I think if the profession generally were interested in giving this kind of instruction in the public schools there would be little opposition to it. As Dr. Burrell told us this morning, Harvard Medical School could not contain those who went to hear instruction in preventive medicine and medicine in general. Those were public lectures given in a way that all could understand. We are each in our own locality able to start a little focus of enthusiasm and instruction. I have been trying to do my share in Boston in the public schools and even the high schools the last four years by giving this instruction in bacteriology and in simple methods for the prevention of preventable diseases. I recommend it to every one of you as being entirely feasible.

Dr. John M. Beffel, Milwaukee, Wis.: Whether a national health department shall be under the head of a special secretary who shall occupy the position of cabinet officer or be under another cabinet officer is immaterial. The necessity exists for the establishment of such a department in order that real, thorough educational work may be carried on by the various states. To-day there is in regard to communicable diseases of all kinds a woeful lack of accurate information—that is to say, material that is accessible to physicians, and that can be readily used in educating the people. If we attempt to combat tuberculosis we are immediately confronted with a hundred and one different problems—the question of exercise, the sanitary condition of shops and places in which men work, the hours of labor, the wages paid, and child labor. In order to do any accurate work whatever it is necessary to have accurate information along each one of these particular lines; so it is necessary that we have some central organization which would collect from the various states this information, to be used by states or by municipalities in other parts of the country. When we look around at the water supply in the rivers and lakes, and realize that our great lakes are lined with cities that are pouring their sewage into them, that the Hudson River is a cloaca of infection from Albany to the sea, and that the Ohio River for a thousand miles is a cesspool which, when its banks overflow, carries back to the lowlands organic material containing germs of infectious disease and breeding various disease-bearing insects, it seems to me that here is a problem for original research work—a line of work which can not be taken up by the municipality or state, but is properly the function of the central government. If it is the function of the government to investigate yellow fever in Cuba and the Philippines, certainly it is the function of the government to investigate any of the preventable diseases in the United States. The death rate in the United States of 650,000 a year from preventable diseases stares us in the face—during the last four years 2,600,000 preventable deaths and a possible death rate of ten million of the eighty million of our present population from tuberculosis. It seems to me that it is as much the duty of the government to do something whereby those ten million souls can be saved to usefulness in the world as it is to look after the health of our island possessions.

Dr. W. A. Evans, Chicago: I believe it is well established that we have no stegomyiæ in Chicago, and that in this part of the country the stegomyia is not found north of the vicinity of Cairo. During the yellow fever epidemic years, yellow fever patients have been allowed to come to Chicago without any particular control. In 1898 a patient came from Natchez or Vicksburg, and died in this city. There was no spreading from it, and no particular effort was made to prevent spreading. We have anopheles in great abundance, but probably our mosquitoes have not been infected with malaria for a great many years, though in the early history this part of the country was probably as malarial as any part of the country. Before the drainage ditch was dug we not only had malaria but many other semitropical diseases. At Cook County Hospital we had cases of tropical dysentery almost all the time. The explanation was given that they were due to the upturning of the earth, but probably the explanation was that the negroes brought up from the south to dig the canal came up with a subinfection, and this was responsible for the moderate spreading of the disease through our own people. Again, in 1898, when the soldiers came back from Cuba, they brought malaria, and it spread. In each case the destruction of the mosquito was a matter of a short time, and after a few years there was nothing of the sort left in the community. We have had a large number of mosquitoes. We do not believe that they act as hosts for disease here. They serve to call attention to the fact that even a community such as this can easily become infected. There is no reason why Chicago should not be as free from mosquitoes as some of the more southern points now are. For the education of the people, six or seven years ago, the Chicago Medical Society started public lectures. A public lecture is given in the Public Library building every Saturday night from early fall until late spring. We have branch societies all over town which are all interested in the organization in their part of the city, and some of them have lately been holding public lectures in the small park houses. The Department of Health has given a great many lectures this winter. I have averaged more than one a day all winter long, and some days have talked four times a day on health subjects. We talk to schools, clubs, churches, every business organization in town and to everybody that will listen. I have talked on health to audiences as large as three thousand and as small as nine people. Every large business club in Chicago has its committee on health. The Commercial Association, an effective and hustling business organization composed of several thousand of the best and most active business men in this country, occasionally has a well-attended meeting at which questions of health alone are discussed. The Commercial Club, our strongest organization, devoted an evening not long ago to the question of consumption. They have an active committee on health, the members of which are millionaires, which within the last six weeks has spent two afternoons in the Health Department. We get out two little bulletins. One appears every week in an edition of about 8,000 and is gratuitously distributed to every physician, every teacher and every preacher, and some others in the city of Chicago. Last week's issue was devoted especially to consumption and to its early diagnosis. The issue for this week shows especially the death rate from and the causes of diarrheal diseases, particularly typhoid fever. During the winter we talked on the subject of ventilation, pneumonia and consumption. Now we shall talk on food and water, especially milk and water. We send out articles to the paper on Sunday afternoon because the Monday morning papers need material and will give it more space than on any other day of the week. The papers treat us very kindly. They give these articles a great deal of space, and every metropolitan daily in the city has helped editorially, certainly on an average once every two weeks, and I think our most influential paper, the *Tribune*, has an editorial at least once every week on some live question. Then we get out a leaflet for another group, the foreign-speaking people. We found that we were not getting, as we should like to, at the Pole and the Bohemian and the Italian. This leaflet, on one subject at a time, goes to their publications, and is perhaps printed in foreign languages. We take up consumption, for instance, and show its extent and its effect on trade. One leaflet was on consumption among negroes, showing that the negro has about four times as much consumption as the white man. As soon as the negroes read this article they organized a tuberculosis society. Their meetings have been frequent and largely attended. Their organization has handled cases, and there is much evidence that they intend to handle the consumption problem of the negro for themselves. Those are the most important things that we are doing in the way of public education. I feel certain that the people are more alert on this question in the neighborhood than they are in most communities.

Dr. J. H. White, New Orleans: In reply to Dr. Hemenway and Dr. Beffel, I have lingered under the impression that we had a bureau of public health to which I had been devoting the twenty-five best years of my life. Under that bureau I have had the honor (and if I never do any other good work in my life I shall consider that I have done one) of extinguishing the yellow fever in the United States, the first time this was ever attempted through the destruction of the mosquito. There has been much work done under that bureau, and it simply remains for congress to increase the appropriation. Then all the information wanted will be furnished to the state and municipal authorities. The bureau is only too anxious to carry on this work if it can get the money. There are many state health officers who know this and who are in splendid accord with us. I know that we are a bureau of public health whether we ever become a department or not, and, furthermore, I know that when the United States needs men to do sanitary work, and we have not enough, we have only to go to the corps to which the President of this Section belongs, and we can get others. If we have not a public health service in the United States to-day then no nation has one. I am in hearty accord with Dr. Munson as to the limitation of the time when yellow fever shall be wiped out of the American continent. It will be a stupendous task, but if the other nations have not the men to do it we can loan them the men. We can wipe it out and it can be done in five years instead of ten. There are stegomyiæ in the Hawaiian Islands and in Guam, and as surely as we get the Philippines infected then so surely we will experience what was said about Cuba that it "has been a central hell, disseminating disease and death to all mankind." The Philippines will double discount Cuba if they ever become infected. It will be horrible beyond compare. I am delighted to hear what has been said about the education of the public in the city of Chicago. What Dr. Evans is doing is exactly what I had in mind. This is what we are trying to do under stress and strain in the city of New Orleans. All honor to Dr. Evans.

Dr. H. M. Bracken, St. Paul, Minn.: It is authority and funds for our present national bureau of public health that are chiefly needed. If we were pigs and cows we could get all the money required. Every one knows that there is a Bureau of Animal Industry, but very few seem to know that there is a U. S. Public Health and Marine-Hospital Service.

Dr. N. K. Foster, Sacramento, Cal.: I want to bear my testimony to the efficiency of our present national health department. I think that if we would pay less attention to enlarging our sphere of action by urging a special department in the cabinet, and insist that our representatives support the magnificent department that we have already, we should derive a great deal more good from our effort. When plague broke out last summer in San Francisco the Marine-Hospital Service took charge at the request of the state and city boards of health. The plague had a strong hold. The rats were infected all over the city. Cases came not largely from the Chinese and Japanese but from white people, and were scattered all around. In a few short months, by the efficient work of the Marine-Hospital Service, it was practically stamped out. We do not expect that it will be entirely stamped out for the next year or two, but since the first part of January we have not had a case. If the work is kept up and the Marine-Hospital Service is properly supported the plague will be stamped out from the Pacific coast. The departments are doing excellent work, and if we can unify them it seems to me we shall take a step in advance which will some time lead to what the most radical want.

DR. H. B. HEMENWAY, Evanston, Ill.: We have an excellent medical and surgical administration in the United States Army and Navy, and we have also a Public Health and Marine-Hospital Service. In this country there is not enough authority given to the medical man. We all know that the medical army officer has not the authority which he should have and which some countries, Japan, for instance, give to the medical officer. At the time of our war with Spain, after the surgeons made requisition after requisition for quinin the quinin was not forwarded until the need for it was past, and when finally a chaplain went up to a certain brigadier-general and asked if he could not use his influence to hasten on that quinin, the brigadier-general ordered the chaplain under arrest. The trouble was that there was no authority. I am second to no man in my admiration for the work which has been accomplished by the Public Health and Marine-Hospital Service, but this service, as it exists to-day, is coupled with the management of hospitals which have been in existence a long time for a specific and very limited use. The government has been using that old service, throwing on it a certain limited sanitary work. For efficiency the public health service should not be dependent on marine hospital management. Vital statistics ought to be under the control of the Bureau of Public Health, not the Bureau of Commerce and Labor.

CLINICAL AND MEDICOLEGAL SIGNIFICANCE OF SLIGHT TRAUMA TO JOINTS.

SIDNEY LANGE, M.D.
Radiographer to the Cincinnati Hospital.
CINCINNATI.

The Roentgen era has added much to our knowledge of joint pathology and has made possible a broader classification and a more comprehensive therapy of joint disease.

In the production of joint disease trauma undoubtedly plays a most important rôle. The trauma may result in a gross lesion of the joint, it may be the determining factor in the localization and growth in the joint structures of micro-organisms already present in the blood or lymph stream, or the trauma may initiate degenerative or chronic inflammatory changes in the synovial elements, changes which may in time impair or destroy the integrity of the joint. It is to this latter class of cases that attention is directed.

The histologic elements making up a joint are of comparatively low organization and scant vascularity. Degenerative and chronic inflammatory changes of a fibroid or calcareous nature are, therefore, very prone to occur in the joint tissues. Such changes are not infrequently initiated by some trauma to the joint, often so slight that it may have been overlooked by the patient.

Furthermore, the close relation of the bone-forming elements to the synovial sac makes new bone formation about the joint not an uncommon occurrence. Such new bone formation is usually the accompaniment of chronic inflammation in the joint, an inflammation which is so often excited by some slight trauma. A fall or strain may have ruptured a ligament, bruised or torn the periosteum or torn loose a small piece of cartilage or a splinter of bone. Chronic inflammation with fibrous tissue and new bone formation follows.

Such changes about a joint differ from similar changes in other parts of the body in that the joint changes are so often progressive. A fibrous or calcareous change in its incipiency may or may not interfere with the function of the joint, but the mere presence of such changes in or about the joint constitutes a hindrance to the free movements of the joint and an irritant, and the process which gave rise to this irritant becomes progressive. Thus what was originally a conservative effort on the part of Nature becomes, in the synovial regions, an irritant, and each new conservative effort gives rise to more irritation. A real vicious circle results. Too often this vicious circle accomplishes the permanent functional ruin of the joint. This is especially true in large joints, such as the knee, in which the movements are violent and the strain considerable.

These chronic joint changes are usually slow in developing; from one to ten years may elapse between their inception and the production of marked functional joint impairment. The causal trauma is thus often overlooked or forgotten.

The Roentgen picture of these joint changes is often of the greatest value and the only means of arriving at the true nature of the condition. The joint examined immediately after the slight injury may show nothing abnormal on the skiagram; or there may be evidence of some effusion into the joint or there may be seen a detached splinter of bone usually at the insertion of a ligament. Again, there may be a cracking off of the articular margin of the bone or a distinct gross fracture may be present. Such injuries are usually treated by rest and fixation of the joint for a few days to several weeks, and recovery may be apparently perfect. Indeed, in the slighter cases the patient may not seek medical attention at this time After a variable period of time, impairment of the strength and function of the joint may gradually develop, with or without pain. The Roentgen picture is now often characteristic. Minute or gross changes in the joint may be evident. There may be slight irregularities in the contours of the articular margins. Bony spicules may be seen here and there. Joint contours, instead of being smooth and nicely rounded, may be uneven and of grotestque shape. Bony spurs and outgrowths are seen in the more advanced cases. Loose bodies may be present in the synovial sac. Ossified masses (tendinitis ossificans) may be seen developing in the ligaments, especially near their attachment to the bone, or there may be a bony outgrowth into the ligament of its point of attachment. Bony masses may be seen in the surrounding muscles (myositis ossificans), which masses play an important part in interfering with joint movements. If the original injury has been a gross fracture there may be noted an excessive callus formation around the fracture with irregular outgrowths from the callus.

The changes being progressive, the ultimate picture may be not unlike that of arthritis deformans. True arthritis deformans may be ruled out, however, if the other joints of the body on examination are found normal.

Constitutional tendencies play an important part in the production of joint changes. Fibroid and calcareous changes about joints originating from trauma are much accelerated and aggravated by an accompanying constitutional state favoring their development. Given a patient of distinct gouty or "arthritic" (if the term be permissible) habit, the chances for chronic joint changes following trauma are much increased. This tendency is more or less marked in all arteriosclerotic individuals past 40 years of age.

The significance, then, of slight trauma to joints is its bearing on prognosis. The possibility of such joint changes following trauma must always be borne in mind and a guarded prognosis must be made in many joint injuries, especially those occurring in individuals past 40 years of age and of arteriosclerotic or gouty habit.

From a medicolegal standpoint these chronic joint changes are of much interest. Not infrequently claims for damages or accident insurance are made on the basis of joint changes, developing months or years after the original injury to the joint. Since such joint changes may undoubtedly be initiated by a slight traumatism to the joint, it would seem that such patients have just claim for damages, although in any given case it may be difficult to prove that the original trauma stood in direct causal relation to the subsequent joint trouble.

I have recently seen two such cases, one a hypertrophic arthritis of the wrist resulting supposedly from a fall on the hand two years previously, and the other an elbow which could not be completely extended because of a bony mass between the head of the radius and the articular surface of the humerus, resulting supposedly from a slight trauma some time previous. Both patients were in litigation to recover damages for the injury, but both lost in court.

There is another type of joint trouble which follows slight trauma, in which conditions are reversed. In this type of case the joint changes precede the trauma, but the symptoms are latent until called into being by the trauma.

It has been frequently observed that the changes of true arthritis deformans may be present in one or more joints without giving rise to any symptoms in these joints. The symptoms may, however, be lighted up at any time by some trauma to the joint. In the routine examinations at the Cincinnati Hospital this observation has been repeatedly verified. In the examination of joints of patients referred to the Roentgen laboratory for a supposedly acute traumatic synovitis due to falls many of these joints show all the changes of an advanced arthritis deformans, and yet such a patient will give no history of trouble with the joint previous to the injury. This observation has been made most frequently on the knee joint. An *x*-ray examination of the uninjured (supposedly normal) knee will show practically the same changes, although the joint functions perfect and painlessly. When the symptoms are once lighted up in these joints by the trauma they rarely disappear completely but run the characteristic course of arthritis deformans, namely, with remissions and exacerbations. The possibility of an underlying arthritis deformans should always be borne in mind when a traumatic joint inflammation refuses to subside under the usual treatment.

The following case illustrates the medicolegal phase of this circumstance:

Patient.—Mr. K. (referred for *x*-ray examination by Dr. Maloney), aged about 55, suffered a severe strain to his left knee in a railroad accident. The immediate symptoms were so slight that the patient continued on his feet and at his occupation of railroad conductor. In about ten days he took to his bed and was confined there several weeks, apparently because of delayed shock. When he got up again he complained of some weakness in the left knee and some pain. This pain and weakness was especially marked when the knee was fatigued and the symptoms became progressively worse during several months, after which I was asked to make an *x*-ray examination.

Examination.—At the time of examination the knee was slightly swollen and slightly tender over the internal aspect, but complete flexion and extension were not painful or restricted. The *x*-ray examination revealed no fracture or other gross injury to the joint, but the characteristic changes of arthritis deformans were present; bony irregularities, spicules, lipping of articular edges and loose bodies were seen. The uninjured (supposedly normal) knee was then skiagraphed and the same changes were noted.

Here then was a case of well-advanced arthritis deformans but symptomless up to the time of the trauma. The patient made a claim for accident insurance, which was allowed and undoubtedly justly. For, although the chronic joint changes preceded the injury, the injury lighted up the symptoms which now refused to subside. In the absence of such an injury it is reasonable to suppose that the patient would have continued to enjoy the full use of his knee for years perhaps. For the uninjured knee was evidence to this possibility. Hence the patient had a just claim for damages or insurance, although the pre-existence of the chronic joint changes should have modified somewhat the amount of the claim.

22 West Seventh Street.

THE REGISTRATION OF VITAL STATISTICS.*

CRESSY L. WILBUR, M.D.
Chief Statistician, Bureau of the Census.
WASHINGTON, D. C.

I feel that I may reasonably take for granted the validity of the principle that complete and trustworthy vital statistics are the very foundation of sanitary work and absolutely indispensable in the daily duties of officers of the public health.

The means of obtaining such statistics were laid down in the "essential requirements" formulated some years ago by the American Public Health Association and the Bureau of the Census, and only last month reaffirmed, as "statistical rules," by the American Public Health Association. These principles have formed the basis of many successful laws, and no legislation in this country that has disregarded them has been successful. They are so important that it is worth while to repeat them:

ESSENTIAL REQUIREMENTS FOR REGISTRATION OF DEATHS.

1. Deaths must be recorded immediately after their occurrence.
2. Certificates of death of standard form should be used.
3. Burial or removal permits are essential to the enforcement of the law.
4. Efficient local registrars are necessary.
5. The responsibility for reporting deaths to the local registrar should be placed on the undertaker or other person having charge of the disposition of the body.
6. The central registration office should have full control of the local machinery, and its rules should have the effect of law.
7. The transmission and preservation of returns should be provided for.
8. Penalties should be provided and enforced.

ESSENTIAL REQUIREMENTS FOR REGISTRATION OF BIRTHS.

1. Births must be recorded immediately after their occurrence.
2. Certificates of birth of standard form should be required.
3. Some check is necessary to secure enforcement of the law.
4. Efficient local registrars are necessary.
5. The responsibility for reporting births to the local registrar should be placed upon the attending physician or midwife, and upon the parents if no physician or midwife was in attendance.

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* Paper read before the Conference of State and Provincial Boards of Health of North America, Washington, Sept. 25, 1908.

6. The central registration office should have full control of the local machinery, and its rules should have the effect of law.
7. The transmission and preservation of returns should be provided for.
8. Penalties should be provided and enforced.

Those who have had to do with public health work are aware how inadequately deaths and the causes of deaths are still registered in the United States. Not quite one-half of the population of the country is yet included in the "registration area," which relates to deaths alone. Not a single state has yet qualified as having approximately complete (90 per cent.) registration of births.

It is, of course, well known that earnest efforts are being made to extend effective registration of vital statistics; that improved laws have been recently passed in many states; and that the great American Medical Association, the American Public Health Association, the Conference of Commissioners on Uniform State Laws, and the Bureau of the Census, have joined in the preparation of a model bill, which will be presented in several states next winter for legislative action through the aid of the state sanitary authorities. If the work already undertaken should meet all possible success, we might have nearly or quite two-thirds of the entire population of the United States in the registration area for the next census year, 1910.

But it may not be fully realized—and to this I desire to call the special attention of sanitary and registration officials as the fighting force in the field—what are some of the chief dangers and difficulties attending the movement for the extension of the registration area, and interfering, or likely to interfere, with the passage and proper enforcement of adequate registration laws.

First, and most ominous, is the tendency to allow undertakers to act for local registrars as subregistrars of deaths and issue burial or removal "permits" to themselves. The "permit" thus issued is no longer a permit, forming the most essential item of the registration machinery and insuring that the death must be registered by a responsible official before interment. It is a mere farce, and the very statement of "issuing a permit to oneself" should show its ridiculous character. In practice it seriously interferes with the function of the local registrar, because he can not know, before the body is disposed of, that the death has been properly registered; and undertakers acting as subregistrars will frequently fail to file certificates promptly and will not exercise as much care in securing satisfactory certificates as a well-qualified local registrar should. In such cases the latter can not prevent this by refusing a permit until a legal certificate of death has been filed.

Every facility, to be sure, should be afforded undertakers in complying with the necessary requirements of an effective registration law, and for this purpose the requisite number of local registrars conveniently located is very important, and also the plan of utilizing the nearest registrar as in the Ontario law. Yet the occasional complaints of "hardship," few of which are well-founded, should not be made an excuse for turning a registration system over to the undertakers neck and crop and expecting them to enforce it against their personal convenience. For it is undoubtedly easier and simpler to inter the body of a dead human being without taking the pains to make a legal record of the death, as is done in many of our states at present—one of them only across the Potomac from the capital of the United States—and any "red tape" in this matter, if compliance is to be secured, certainly requires a little attention on the part of somebody, and a penalty to compel such compliance. Who can better take this trouble than the man who forever removes the evidence of death and of the cause of death from the world? As a matter of fact, registration laws thoroughly enforced are a benefit to the undertaker's profession and will undoubtedly be recognized as such by all progressive funeral directors and licensed embalmers familiar with their practical operation in registration states.

The second difficulty is the ever-recurring interference of the old and thoroughly discredited county system of collecting returns. Satisfactory returns of births or deaths have never been collected through county officers (clerks, health officers, probate judges, etc.) in any state, as many times as it has been attempted to do so, and never will be, for the plan is inherently opposed to the essential requirements of registration. Yet it will take a vast deal of education to get the "county idea" out of the heads of legislators, especially in the southwestern and southern states.

The third difficulty lies in the weakness of the executive functions and financial powers of some state boards of health, to which are usually entrusted the administration of registration laws. Registration is not the showy side of sanitary work. It requires some money and it takes much time, patience, tact, and again tact, patience and time. It is not pleasant work, to many minds, for it requires much attention to details, and forever and forever the insistence that undertakers, physicians, registrars, shall understand and obey the law. And it may require backbone, when it is easy to connive at or ignore violations of the "letter" (and usually the spirit goes with the "letter") of the law, to insist that the plain requirements of the law be obeyed, or that prosecution follow. The individual who desires an exception to be made in his case may have political influence or at least have influential friends. And for all this trouble the sanitary official gets only figures for his pains, which are more or less valuable in proportion to his faithfulness to his duty to the state. He may also feel that he has helped to maintain the priceless vital records of the commonwealth. But it is not showy work, although it may demand as great persistence, ability and technical training as any or all of the other duties of the state health department.

Our state boards of health should be strengthened when weak, and they should have ample provisions for the necessary cost of registration of vital statistics—which is not excessive—when this duty is imposed on them. They should obtain the best ability possible to direct the registration work, and should support it firmly in the fearless, but uniform and equitable, enforcement of the law. If they can not obtain money for this purpose or command executive ability, they should retire from the field and seek to build up a bureau of vital statistics in some more favored department of the government. But it will usually be possible to secure the necessary means, and care should be taken that they are devoted to the fundamental requirement of better vital statistics, rather than diverted to more attractive but less essential lines of work. If vital statistics are in fact, and not as a mere theory, the foundation of sanitation, then one should insist on a good foundation before attempting much of a superstructure. This is better than to have a house all cupola, suspended in midair like Mahomet's coffin.

THE USE OF DIGITALIS IN PNEUMONIA.

THOMAS F. REILLY, M.D.
Professor of Applied Therapeutics in the Medical Department of Fordham University.
NEW YORK.

Much has been written, pro and con, on the use of digitalis in pneumonia. It is not my purpose to review the literature, which is as confusing as anything that can be found in medicine. I shall confine myself largely to a statement of the clinical results following the use of fairly large doses of the drug in this disease as it occurs in private practice. The therapeutic nihilism of the past decade has come to regard as the ideal method of managing pneumonia the do-nothing policy of treating symptoms as they arise. The enormous mortality rates following such a policy is sufficient reason for trying to do something better.

In this disease we have two general indications from start to finish: 1, to get rid of the toxins as far as possible, until Nature is able to furnish her antitoxin; 2, to sustain the heart and circulation, on which the brunt of the attack falls, until the danger is past. If we can accomplish these two results our patient will probably be saved. The only organs at our command to eliminate the toxins are the bowels, skin and kidneys. As in all intoxications, the first two of these should be stimulated to increased action. By proper manipulation and dosage we have in digitalis one of the best diuretics. It not only increases markedly the flow of urine but also, to some extent, the quantity of excrementitious matters.

As to the heart itself, the most important danger is the tendency of failure arising (a) from the action of the poison on the neuromuscular mechanism of the heart, (b) from granular degeneracy of the cardiac muscle under high temperature, probably of minor importance, and (c) from overloading and distention of the right ventricle, consequent on pulmonary obstruction, another factor of minor importance. Associated with this condition of the right side is the venous engorgement and a high degree of arterial anemia. This last fact tells again on the heart itself by diminishing the nutrition of the heart muscle from lack of proper blood supply through the coronary arteries. Now it is a well-established physiologic fact that digitalis slows the heart by lengthening the cardiac diastole and so rests the wearied cardiac muscle; but beyond this it also aids in the direct nutrition of the heart. the blood supply reaching it only through the period of diastole.

The wild claims of Petresco that he could abort pneumonia by large doses of digitalis have never been believed, and have always been quoted in derision of the digitalis treatment. I do not believe that all pneumonia patients can be saved by this drug, but by the judicious use of digitalis we can frequently manage to keep our patient's pulse under 100 per minute. The elaborate statistics published by the Massachusetts General Hospital show that with a pulse under 100 the disease is seldom or never fatal.

It is all right to say: "Do nothing for mild cases—the patients will get well under Nature's care"; but who can say that the patient in the mild case will not get worse and the heart fail? The text-books say: "Give digitalis, when the heart begins to fail." Then it is too late. It requires from twenty to thirty hours before this drug gets a complete hold on the heart. The experiments of Brunton and Cash, made many years ago and confirmed often since, go to show that in the presence of high temperature the effects of digitalis on the vagus are much less than in normal conditions, but its action on the cardiac muscle itself is not interfered with, so it does not affect the heart so much by its inhibitory action as by direct action on the muscle. As to the dangers of digitalis medication, aside from a marked arrhythmia after the crisis, which is quite often characteristic of the disease itself, I have personally seen no evil results. The symptoms of digitalis intoxication are not usually alarming and can easily be overcome by lessening the dosage.

In preparing any statistics, I am well aware that, in the first four decades of life, croupous pneumonia does not have a very high mortality; certainly after the first year and until the twentieth year the mortality is very low. It is at this time that we are not likely to have complications. The kidneys are healthy and the toxins are readily thrown off. After forty years comes the really severe test of any treatment. We should not properly include in our statistics cases associated with advanced organic disease of some vital organ, because in such cases the lethal issue is due perhaps as much to the organic disease as to the pneumonia, and no remedy could possibly alter conditions.

Bronchopneumonia, although its clinical picture is generally different, is quite often due to the same organism and the general indications of support and eliminations are the same. It is, however, according to statistics, a much more fatal disease. I have collected the statistics separately and together. There was a total of 150 cases. Of these 126 were of the lobar variety; there were twenty-four cases of bronchopneumonia; the ages varied from 2 weeks to 80 years. The fatal cases occurred at the following ages: In lobar pneumonia, at 48, at 60, at 72 and at 80; in bronchopneumonia three cases at 3 years of age, one with asthma and one with measles, and one case (tuberculous) at 75. There were four deaths in each series, a mortality rate of 3.17 per cent. for the lobar variety and 16.6 per cent. for bronchopneumonia, a general mortality rate of 5.53.

The treatment consisted (a) of the uniform administration of quite large doses of some reliable preparation of digitalis, usually the fluidextract, as soon as the diagnosis was made; (b) elimination of the toxins by means of simple diuretics and diaphoretics, the vegetable potash salts, and spiritus ætheris nitrosi; and (c) the use of strychnin, caffein, etc., as stimulation was required. As to the dosage, it must vary with the individual case. A very young adult generally receives three minims of the fluidextract every three hours steadily for days, increasing if the pulse increases markedly; a child of 1 year received from two to four minims of the tincture, or one-half drop of fluidextract, every three or four hours as the case demanded.

These statistics, small in number as they are, represent the wide variations of private practice and cover a period of ten years, so that they do not represent any special season, which often makes a marked difference in our mortality rates. While it is without doubt true that many of these patients would have recovered without any medication, I feel satisfied that a goodly number would have perished without it.

204 West One Hundred and Forty-first Street.

Danger from Saline Injections in Cholera.—E. J. O'Meara, in the *Indian Medical Gazette*, states that the vitality is so depressed in cholera that there is the greatest danger of cellulitis from saline injection into cellular tissue, no matter how carefully the operation is performed.

HEMORRHAGIC DISEASES OF THE NEWBORN.

HENRY ENOS TULEY, M.D.
Professor of Obstetrics, Medical Department, University of Louisville.
LOUISVILLE, KY.

Newborn babies are specially prone to develop hemorrhages, and because of the indefinite knowledge to-day of the true pathology of the condition, the symptom-complex is now called in general terms, "hemorrhages of the newborn." Formerly an attempt was made to describe each case according to the location of the hemorrhage, in this way having a number of terms descriptive of the same general underlying disease. King, Genrich and Runge, quoted by Koplik, state that hemorrhagic disease in the newborn occurs about once in a thousand cases. Shukowsky's estimate of twenty-nine in thirty thousand agrees with this statement.

ETIOLOGY.

The etiology of the condition is obscure; but in view of the fact that fever is a prominent symptom in most cases, the general consensus is that the most frequent causative factor is a general septic infection. The newborn develop sepsis easily and the entrance of the offending organisms to the system may be at many points, the gastrointestinal tract, the mouth, the genitourinary tract and the umbilicus being the most frequent portals. Gartner asserts that he has found bacilli in the feces in cases of melena, proving his theory that this form of hemorrhage is a coccal sepsis. In Winckel's disease, a condition closely similar, streptococci and bacilli have been found in various organs and the blood. The changes which occur in syphilis, which has been named as a cause, are in the blood vessels, rather than in the blood itself.

Lambert, in the report of his most interesting case, gives the following bacteria which have been isolated in reported cases: *Staphylococcus, Pneumococcus, Bacillus pyocyaneus, Bacillus coli, Bacillus typhosus and Bacillus diphtheriæ.*

Among the other causative factors have been mentioned prematurity, atelectasis, deformity of the heart, persistent foramen ovale or ductus arteriosus, ulcer of the stomach and intestine, the latter due to a venous stasis, followed by a thrombosis; fatty degeneration of the arterioles; extreme delicacy of the blood vessels; congenital obstruction of the portal venous system; congestion from pulmonary, cardiac or hepatic disease; excessive secretion of gastric juice resulting in partial digestion of the mucosa of stomach and intestine, congenital hemophilia and the great changes taking place in the circulation incident to birth.

LOCATION.

Hemorrhages in the newborn may take place from any organ and the hemorrhage may occur before birth or subsequently. When postnatal, it usually occurs within the first three days after birth.

In Dr. Townsend's fifty cases, quoted by Rotch, he gives the following location of the hemorrhages:

Intestine	20
Stomach	14
Nose	12
Mouth	14
Umbilicus	16
Ecchymosis in skin	21
Scratch of skin	1
Cephalic hematoma	3
Meninges	4
Abdominal cavity	2
Pleural cavity	2
Lung	1
Thymus gland	1
Gastroenteric tract, nose, and umbilicus accompanied by ecchymosis of skin	3
Gastroenteric tract alone	19
Umbilicus alone	3
Ecchymosis of skin alone	6

Holt gives Ritter's statistics in 190 cases as follows: Hemorrhage from the umbilicus, 138 (umbilicus alone, 97); intestines, 39; mouth, 28; stomach, 20; conjunctivæ, 20; ears, 9.

I have seen one case of hemorrhage into the suprarenal gland,[1] a number of cases of cephalic hematoma, both single and double, and the case shortly to be reported, of melena, or hemorrhage from the stomach and intestine. In the case of hemorrhage in the suprarenal capsule, the right suprarenal gland was distended to the size of an orange, with blood, and blood-clots were found behind the kidney and in the free peritoneal cavity. The diagnosis was not made in this case during life, the most prominent symptom being a profound jaundice. The hemorrhage was found postmortem.

Hemorrhage from the gastrointestinal tract may occur independently of bleeding from any other organ, and is called melena. If from the mouth alone, the quantity of blood lost is usually small; if from the stomach, large quantities may be vomited or passed from the bowel in form of clots. As stated, it has been thought by different observers to be due to an ulceration of the mucous membrane, following septic emboli of its vessels, or digestion of the membrane by a hyperacid gastric juice, or to a general pyogenic septic condition.

Like the other forms, it usually occurs during the first three days, and with great variety as late as the ninth day. The child may first vomit some red blood, followed soon afterward by a coffee-ground vomit; or blood may first be noticed in the discharges from the bowel. The fact that the meconium is very dark in color may cause blood in the actions to be overlooked, unless it is passed in large clots. If passed in considerable quantity the napkin at the edge of the mass will be stained a reddish color; of if blood is suspected, a microscopic examination will reveal the blood corpuscles. It should be borne in mind, before a diagnosis of hemorrhagic disease is made, that the source of the blood may have been a fissured nipple, or blood from the nose which had been swallowed. I have seen one case which caused considerable uneasiness until it was finally decided that the source of the blood was a cracked nipple.

PROGNOSIS.

The prognosis in hemorrhagic diseases of the newborn varies according to the site of the bleeding. Taken as a whole the mortality is given by various authors differently; in Townsend's cases 62 per cent., and in another series of 709 cases 79 per cent.; Williams places it at 60 per cent. Holt states no observer has seen more than one-third of his patients recover.

The following history is given as illustrative of that form of hemorrhage known as melena:

Patient.—Child, iii-gravida. (First labor instrumental, occiput posterior, forceps rotation. Second labor normal but prolonged.) Third labor began at 12 midnight; birth at 1 p. m. following day. Vertex presentation; first position; mechanism and labor normal. Child female, weight 9 pounds 8 ounces; normal in every way; primary respiration prompt and normal; no cyanosis; nursed vigorously when put to the breast. An abundant supply of milk appeared on the third day.

Hemorrhage.—On the third day at noon the child vomited red blood, sufficient in quantity to stain its clothes through and through. Shortly after this a very large movement of meconium was passed containing red blood, very easily distinguished in the black meconium mass. The child was pale and blue around the nose; the pulse was weak and rapid; the child refused to nurse after vomiting blood, the nursing being discontinued after hemorrhage was reported. For two days vomiting of blood and hemorrhage from the bowels occurred, the latter profuse and passed in masses of clots.

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[1] Arch. of Pediat., November, 1892.

Treatment.—After treatment with subcutaneous injection of gelatin solution, 2 per cent., described below, the child made a good recovery; at the end of the second week it had regained its birth weight and continued to thrive.

TREATMENT.

Different methods of treatment have been suggested by various authors. Koplik suggests the cold coil; ergotin, ½ to ¾ grain subcutaneously; Henoch suggests one drop of liquor ferri sesquichloridi in barley water, every hour; Williams suggests gallic acid, gr. 1, every three hours, oil of turpentine. m. 1, in mucilage every hour; extract of krameria, grains 2, every two or three hours, or an injection into the bowel of an infusion 4 to 5 ounces, and calcium chlorid to increase the coagulability of the blood.

The subcutaneous injection of gelatin employed in the case reported was followed by very prompt recovery. The English gelatin was used in this case, as the ordinary commercial gelatin has been found contaminated with the tetanus bacillus.

Two sterilizations of the gelatin are made in order to be sure that this organism is destroyed. An ordinary antitoxin syringe or aspirator, without too large a needle, can be used for the injection. The cellular tissue of the back can be used, the solution warmed and 20 c.c. can be slowly injected.

Weil[2] of Paris experimented in patients with hemophilia, in whom he was able to control the tendency to bleed for a certain time with the injections of fresh serum. He states that the "sera of man, the rabbit, horse and cattle have been found equally efficacious, although *in vitro*. the action of the human serum is more evident in correcting the disorder." He injects 30 c.c. under the skin, and suggests the use of diphtheritic serum, if fresh.

As long as there is any bleeding from the stomach food can not be given in this way, but it can be given by nutrient enemata.

After writing this paper I saw another case, very similar to the one reported, except that the hemorrhages began on the second day and were more profuse and frequent. The gelatin solution was used subcutaneously every three hours and this child recovered, although a very grave prognosis was given.

This treatment was advised in a third case, the attending physician consulting with me in regard to it over the telephone, and this patient also recovered, though the physician thought that the child would die.

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2. Internat. Clin., series 17, iv.

Tuberculosis and Discharged Prisoners.—Dr. J. B. Ranson, physician at Clinton Prison, at the recent meeting of the New York state conference of charities and correction, spoke of the danger of discharged prisoners infecting others with tuberculosis. He says that there are annually discharged from the penal institutions of the United States over 100,000 prisoners, and from the penal institutions of the State of New York 12,000. Of this number a large percentage are in some degree infected. These become scattered throughout the country, living under unsanitary conditions, regardless of the care of their person, and often indulging a feeling of hostility to society. The possibility of infection which this vast army may possess and its responsibility for the prevalence of this disease in our large cities and towns can not be estimated.

Clinical Notes

DOUBLE SUPPURATIVE PAROTITIS COMPLICATING TYPHOID IN A BOY ELEVEN YEARS OLD.*

HOWARD CHILDS CARPENTER, M.D.
Assistant Pediatrist to the University Hospital.
PHILADELPHIA.

Patient.—T. P., aged 11, an Italian, was admitted to the University Hospital on Aug. 15, 1908. His father, mother and one brother were living and well. One sister had died, aged 15, cause unknown. The patient had never been sick before his present illness.

Present Illness.—He had been sick ten days, and in bed seven days before coming to the hospital. At first it was noticed that he stopped playing and would lie around the house most of the day. Later he complained of headache and general pains all through his body. He developed a severe diarrhea and became so weak he could scarcely move. He had no hemorrhage from the nose.

Physical Examination.—General: The patient was a well-developed boy with moderate wasting of the muscles and subcutaneous adipose tissue. The bony skeleton was well proportioned and the chest normal in shape. The patient's mental condition was decidedly dull; he was semistuporous but could be roused with some difficulty. His eyes were sunken and surrounded by dark rings. There was some ptosis of the upper lids, and the conjunctivæ were somewhat dry. The pupils were slightly dilated, equal, and reacted to light. The lips were dry and cracked; the mouth was kept open and the teeth were dry. The tongue was thickened, dry, fissured with a brownish-yellow coating, and the breath was offensive. The external lymphatic glands were not enlarged. There were no rose spots on arms, chest or abdomen. A slight Kernig's sign was present on both sides. The knee-jerks were absent. There was no ankle clonus, or Babinski. The leucocyte count was 9,600.

Heart: The apex beat was visible in the fourth interspace, 0.5 cm. to the right of the midclavicular line; there was also a diffuse impulse seen all over the precordium. Cardiac dulness extended from the right parasternal line to the left midclavicular line, and began above at the lower border of the second rib. The first sound at the apex was feeble. The heart's action was regular and slightly rapid, but no murmurs were audible. The second sound at the pulmonary area was moderately accentuated.

Lungs: The type of breathing was principally thoracic. Expansion was good, and slightly more marked on the right side than the left. Tactile fremitus could be felt normally over both lungs, and was more marked on the right side. Over both lungs breath sounds were normal, and vocal resonance was heard well everywhere. No râles were present. There was normal pulmonary resonance both anteriorly and posteriorly.

Abdomen: The abdomen was distended, particularly the lower half. There was some resistance to palpation, more on the right side than on the left. Slight tenderness was present in the region of the gall bladder. To percussion the abdomen was everywhere tympanitic. The spleen extended above from the eighth rib in the mid-axillary line to the edge of the ribs; and anteriorly as far as the anterior axillary line. It was not palpable. The liver reached from the fourth rib to the costal margin, in the mid-clavicular line. It could not be palpated.

Clinical Course.—Thirteenth day of Illness: Forty-eight hours after admission there was no change in the patient's condition except in the right upper quadrant of the abdomen. Here there was localized rigidity of the abdominal walls, with marked tenderness. There was a palpable mass, dull on percussion, in the region of the gall bladder, extending in length 6 cm. beyond the edge of the ribs in the mid-clavicular line.

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* Presented at the Philadelphia Pediatric Society, Oct. 13, 1908.
* From the Service of Dr. J. P. Crozer Griffith.

and in width from the right parasternal line to just beyond the right mid-clavicular line.

Fourteenth Day: The mass had disappeared, but rigidity and tenderness still remained. The leucocyte count had increased to 22,000.

Fifteenth Day: The mass in the region of the gall bladder returned, and seemed even a little larger than it was before. Rigidity became more marked, and the mass was very tender to the lightest palpation. The leucocyte count was 20,600.

Seventeenth Day: The patient developed a swelling below, extending up slightly in front of the left ear, which was tender to palpation. There was no tenderness over the mastoid, and the auricle, which was red, did not stand out any more than the right. The leucocyte count was 28,800. The patient's general condition had improved. His spleen now extended 2.5 cm. below the edge of the ribs in the anterior axillary line. The abdomen was flat. The gall bladder was not palpable, and tenderness and rigidity in the right upper quadrant was subsiding.

Eighteenth Day: In twenty-four hours the left parotid became very large, the swelling extended upward as far as the top of the ear, and as far forward as the eye. There was comparatively little swelling posteriorly, but the swelling extended downward beneath the jaw. The swelling was very firm, tender, pitted on pressure, and showed elevation of temperature on palpation.

Nineteenth Day: In twenty-four hours after we had first observed the swelling of the left parotid, the gland on the right side became involved. The right parotid appeared similar to the left gland twenty-four hours previous. The leucocytes were 21,800.

Twentieth Day: There was enormous swelling of both sides of the face, largest on the left side, where it was most prominent in front of the ear; here the skin was shiny and very tense. There was some ecchymosis below the left auricle. The lobe of the ear was swollen, and had on it a large blister. The swelling and edema extended upward 1 cm. above the auricle; and below it was beginning to extend down the neck. Posteriorly the edema almost reached the middle of the occiput. There was no fluctuation. On the right side the swelling was almost entirely in front and below the ear. On both sides there was extensive inflammation of the tissues surrounding the parotids. The leucocytes were 21,400.

Twenty-first Day: The parotid on the left side appeared to be pointing just in front and below the ear. On the right side deep fluctuation could be felt below in front of the ear. Both abscesses were opened by Dr. C. C. Rush. From the left side two drams of pus were removed, and almost a dram from the right. This pus was examined bacteriologically and contained *Bacillus typhosus* and *Micrococcus pyogenes aureus.*

Thirtieth Day: The notes state that the patient was rapidly improving. His abdomen was soft and flat, the spleen could not be felt, and there was no tenderness or rigidity in the region of the gall bladder. He looked much brighter and talked intelligently. His pulse was very small and compressible, but regular and not rapid. His temperature had shown a daily range between normal and 102. It was almost invariably elevated after his dressing was changed. The swellings in front and above the ears had almost entirely subsided, but the abscesses were not much improved. The one on the left was very deep, extending more than an inch into the deep structures of the neck, uncomfortably near the deep vessels. The pus was thick and cream-colored and very offensive; about half an ounce was daily removed from the left side, and a dram from the right. The leucocytes had dropped to 7,000.

Thirty-first Day: The openings in both abscesses were enlarged on account of the retention of pus; the one on the left side, by an incision an inch long downward and forward; the one on the right by an incision half an inch long, posteriorly.

Thirty-third Day: Two sores about two and one-half inches were discovered behind each ear. The one on the right side was a necrotic ring the size of a quarter. Cultures made from this area on bile medium in an endeavor to isolate the typhoid bacillus were negative. On the right side, although there was no break in the surface of the skin, the area was reddened, indurated, and had a softened center. A small incision was made, but no pus obtained. Leucocytes, 6,500.

Thirty-ninth Day: An area of swelling and induration was noticed to have developed below the outer angle of the left eye, about one and a half inches in diameter, with swelling of the left eyelid. In two days the inflammation of the left cheek had subsided.

Forty-fourth Day: The parotid abscesses were doing splendidly. The sore over the occipital region on the right side continued to deepen until the bone on this side was exposed. The edges of the wound were healthy. An air-cushion was kept constantly under the patient's head, and he slept on his side, so that there was little pressure brought on that region. The same day an abscess on the side of his right hip was opened and quite a little pus removed.

Fifty-first Day: The openings of the parotid abscesses were completely healed. The sore in the left occipital region was almost well and the one in the right occiptal region was healing rapidly; there was no longer any exposed bone.

Urine: On the twelfth and twenty-ninth days the urine contained a trace of albumin and a few hyaline and pale granular tube casts. The Diazo reaction was positive. On the twenty-ninth day the urine contained a large number of pus cells. On the forty-fifth and sixty-seventh days the urine examination was normal.

Blood: On the thirteenth day the blood gave a strongly positive Widal reaction. On the thirteenth day the hemoglobin was 81 per cent. On the thirty-ninth day the hemoglobin had dropped to 48 per cent. and the red blood corpuscles were 3,040,000. On the seventieth day the hemoglobin was 55 per cent. and there were 4,140,000 red blood corpuscles.

1805 Spruce Street.

DERMOID OVARIAN CYSTS OF UNUSUAL SIZE.*

EDWARD N. LIELL, M.D.
Gynecologist to St. Luke's Hospital.
JACKSONVILLE, FLA.

The following cases of dermoid ovarian cyst are of interest, not alone because of their enormous size (they weighed, respectively, 42, 39 and 32 pounds), but because of the singular fact that all three were of the left ovary.

Usually cysts of this character are small in size and of slow growth. Not infrequently they develop rapidly, attaining enormous size; rarely they become purulent, with associated fever, as instanced in one of my cases. Dr. T. Gaillard Thomas, in his "Diseases of Women," says that "dermoid cysts rarely grow larger than an adult head."

As to the genesis of these growths, the fact that they have been discovered in fetal life shows that the ovum possesses all the requisites for the development of the many structures present in dermoids, such as bone, cartilage, skin, membrane, hair, teeth, etc. Furthermore, as other ovarian cysts are almost invariably multilocular in character, it might be suggested here that dermoid ovarian cysts are perhaps originally multilocular also, the walls of smaller cysts being eventually compressed into the wall of the common cyst. Regarding the teeth, one text-book on surgery ventures the assertion that these are never perfect and can not be absolutely identified as incisors or molars. The specimen obtained in Case 1 proves the contrary.

The history, in brief, of these three cases is as follows:

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* Read before the Southern Medical Association Section on Surgery, Atlanta, Ga., Nov. 10-12, 1908.

Case 1.—*Patient.*—Mrs. G., aged 42, had had three children. At the time she was referred to me, two years ago, she had considerable dyspnea as a result of abdominal distension and pressure, the growth reaching from the pubes to the ensiform cartilage. Her physical condition was frail, and her general condition much debilitated. On examination a diagnosis was made of ovarian cyst, about the size of a football. Immediate operation was advised, but refused. Ten days later dyspnea was so marked that, to induce relief—the patient still refusing operation—I was obliged to tap the cyst, evacuating through a trocar about one quart of light chocolate-colored fluid containing a few strands of hair. The character of the cyst was evident. As a result, the patient consented to an abdominal section.

Operation.—Adhesions were numerous, to the omentum, intestine, uterus and bladder. As a preliminary to enucleation the major portion of the fluid contents was evacuated through a trocar, the sac and remaining contents being then more readily delivered. The walls of the sac were fully one-quarter of an inch in thickness; in the ligation of the pedicle, because of its unusual size, Chinese twisted silk was used. The weight of the sac and contents was 42 pounds. The fluid was light chocolate in color and of the consistence of glycerin, a portion of it being, however, of a cheesy nature; it also contained a considerable quantity of hair, loose and in bunches. To the inner wall of the sac was attached much skin, and also a portion of a maxilla; in the latter, five teeth were inserted, and four more were free, in all nine teeth, one incisor and eight molars. There can be no question here as to the character or identity of the teeth.

Case 2.—*Patient.*—Mrs. B., aged 64, married thirty-five years, slender and somewhat emaciated, was referred to me in July, 1905. She had been conscious of a gradual enlargement of the abdomen for two years. In this case also a diagnosis of left ovarian cyst was made.

Operation.—The condition proved to be a dermoid cyst of the left ovary, the fluid being milky-yellow, somewhat oily in character. A quantity of hair and four teeth were also found, two of the teeth being attached to a portion of the sac wall. As in the previous case, because of the thickness of the sac wall, the same method of ligating the pedicle was pursued. The weight of the sac and contents in this case was 32 pounds.

Although this patient also made a good recovery, yet at one time, about sixteen days after operation, there was a suspicion of ileus, probably due to some slight adhesion about the pedicle; for several days some flatulent local distention existed.

Case 3.—*Patient.*—Mrs. H., aged 68, widow, was operated on by me at St. Elizabeth's Hospital, New York City, in 1895, while I was visiting gynecologist to that institution. Her condition was a treacherous one; she had, at the time of operation, a temperature of 103 and pulse 118, the result probably, of an injury by a fall a short time previously. Although markedly emaciated, she yet possessed unusual vitality. A diagnosis of left ovarian cyst, inflammatory in character, was made in her case. She came to me fully prepared to take the consequences of any surgical interference.

Operation.—This developed a suppurating dermoid left ovarian cyst, with numerous adhesions, which, however, were separated without apparent injury to other viscera. This cyst contained a fluid of a fatty, purulent, dark yellow nature. The usual accompaniments of hair, skin, and several teeth were found. Its total weight was 39 pounds.

140 West Monroe Street.

Infant Mortality.—J. Ullman (*Buffalo Medical Journal*), states that the mortality of infant life is appalling. It is due, he declares, to the ignorance of the mother and is greatest in proportion to the condition of poverty and the density of population. It has been designated as the "slaughter of the innocents" and still by educating the mother in cleanliness and the proper feeding of babies many an infant can be saved. "A helpless infant is entitled to milk that gives, not takes life."

New and Nonofficial Remedies

The following articles have been tentatively accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in the proposed annual, "New and Nonofficial Remedies." Their acceptance has been based largely on evidence supplied by the manufacturer or his agent, but to some extent on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before final acceptance and publication in book form.

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that so far as known it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

(*A list of all accepted articles is published on an advertising page of* The Journal *in the first issue of each month.*)

(*Continued from Vol. LI, page 2161.*)

AMMONIUM HYPOPHOSPHITE—*Ammonii Hypophosphis.*—$NH_4H_2PO_2 = 82.46$.

Ammonium hypophosphite may be prepared by double decomposition between aqueous solutions of barium hypophosphite and ammonium sulphate. The liquid filtered from the precipitate is evaporated to dryness and the ammonium hypophosphite extracted from the residue with hot alcohol.

Ammonium hypophosphite occurs in irregular hexagonal tablets which melt without decomposition and at a higher temperature give off water and spontaneously inflammable hydrogen phosphide. According to H. Rose, ammonia, NH_3, escapes first. The compound is less soluble in water than the potassium salt, but is very soluble in absolute alcohol.

The aqueous solution should be neutral or slightly acid to litmus paper, and on gently heating with potassium hydroxide T. S evolve ammonia. The diluted aqueous solution slightly acidulated with diluted sulphuric acid, yields, with silver nitrate test solution, a white or brown precipitate, which rapidly turns black, owing to the separation of metallic silver. With copper sulphate test solution, after addition of dilute acid and on gentle heating, a reddish brown precipitate is formed. When the aqueous solution of the salt (1 in 20), acidulated with hydrochloric acid, is added, drop by drop, to an excess of mercuric chloride test solution, a white precipitate of mercurous chloride is formed. On further addition of the hypophosphite solution in excess, the precipitate becomes gray from reduction to metallic mercury.

The solution in water should give not more than a faint turbidity on the addition of barium chloride test solution nor on the addition of diluted sulphuric acid. A solution of 1 Gm. ammonium hypophosphite in 10 Cc. water should not be alkaline toward phenolphthalein T. S.: to render this solution alkaline should not require more than 0.4 Cc. normal potassium hydroxide V. S. The chloric acid should not respond to the U. S. P. Time-limit Test for heavy metals. If 5 Cc. of the aqueous solution of the salt (1 in 10) be measured into a beaker containing 3 Cc. of nitric acid, diluted with about 10 Cc. of water and evaporated to dryness on a water bath, the residue should not respond to the U. S. P. Modified Gutzeit's Test for arsenic.

Action and Uses.—Ammonium hypophosphite exhibits the actions of its constituents. It is used as stimulating expectorant, "alterative," and "resolvent" in diseases of the respiratory mucosæ, particularly in the later stages of acute bronchitis and laryngitis, and in chronic catarrhal conditions. Like other hypophosphites, it is said to be contraindicated in phthisis.

Dosage.—0.13 Gm. (2 grains) every 2 or 3 hours.

Proprietary Preparation:

GARDNER'S SYRUP OF CHEMICALLY PURE HYPOPHOSPHITE OF AMMONIUM.—*Syrupus Ammonii Hypophosphitis (Gardner).*—A syrup containing 3.33 Gm. ammonium hypophosphite in each 100 Cc. (16 grains in each fluidounce).

Action, Uses and Dosage.—See ammonium hypophosphite.

DIGESTIVE FERMENTS.

Under this general head will be described the several digestive ferments accepted for N. N. R.

Valuation of Ferments: Qualitative tests for the activity of ferments can be easily applied, but such qualitative results have very little importance. Quantitative results also are important only in so far as they permit comparison with other ferments; and for this purpose the minutest details of the methods must be accurately observed. After investigation, the Council has decided to employ the following quantitative methods in its work:

1. *Amylolytic Power:* (For diastases, malt and pancreas preparations.) The Council does not approve the methods which are based on the time of change from blue to red color given by iodin; or the time of disappearance of all color; or the amount

of sugar produced in a given time: but instead it has adopted as the standard the amount of starch that can be converted to colorless end point in 10 minutes, by a given weight of the product, working according to the details described. (THE JOURNAL A. M. A., July 11-08, p. 140, and Journal Am. Chem. Soc., 1908, Vol. 30, p. 798.)

2. *Proteolytic Power in Alkaline Media:* (For trypsin and pancreatic preparations.) The approved methods are based on the quantity of fresh fibrin or coagulated egg albumen, which is dissolved by a given weight of the substance, in a slightly alkaline medium and in a given time.

3. *Proteolytic Power in Acid Media:* (For pepsin and gastric preparations.) This is determined by the U. S. P. method.

4. *Milk-Curdling Power:* (For rennet and gastric preparations.) The method is based on the quantity required to coagulate 100 Cc. of milk.

Incompatibilities: Ferments are more or less rapidly destroyed by boiling, by alcohol, by many salts, by unsuitable reaction of vehicle, by putrefaction, and by proteolytic digestion. Solutions of ferments tend to deteriorate on keeping.

Ferments are generally destroyed by each other, and also during their sojourn in the stomach: little therapeutic action can be secured beyond this organ, at least under ordinary conditions.

Therapeutic Indications.—The digestive ferments are used outside the body to predigest food. They are often applied locally for the softening of dead tissues or the solution of false membranes. They are administered internally for the purpose of supplementing or replacing deficient or absent normal secretions. In such cases they should be administered in such manner and at such time as to secure the most favorable conditions for their action. Diastases should be given with the food or before the stomach becomes highly acid. Trypsin and other ferments which are to act in the intestine should be given near the end of gastric digestion with sufficient alkali to neutralize the acid of the gastric juice. In cases which present a nearly or quite total lack of acid in the stomach they may be given with alkali at meal time or soon after the meal is taken.

BISMUTH AND LITHIUM CITRATE (SOLUBLE), Wellcome Brand—Bismuthi et Lithii Citras Solubilis, B. W. & Co.—A "scale salt" of bismuth and lithium citrate containing 40 to 45 per cent. of bismuth (Bi) and 2.5 to 3 per cent. of lithium.

Bismuth and lithium citrate occurs in colorless scales, readily soluble in water. Its aqueous solution is acid toward phenolphthalein, but alkaline toward litmus T. S.

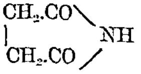
Tests. If 1 Gm. of the salt is warmed with 10 Cc. potassium hydroxide no ammonia is evolved (absence of ammonium compounds).

Action and Uses.—Recommended by the manufacturer as a convenient form of medication when the effects of both lithium and bismuth are desired, as in gouty dyspepsia.

Dosage.—0.13 to 0.3 Gm. (2 to 5 grains).

Manufactured by Burroughs, Wellcome & Co., London and New York. Not patented or trademarked.

MERCURY SUCCINIMIDE — Hydrargyri Succinimidum. — Mercury succinimide $((CH_2.CO)_2N)_2Hg = C_8H_8O_4N_2Hg$, is the mercuric salt of succinic acid-imide,



$$\begin{matrix} CH_2.CO \diagdown \\ \vert \qquad\qquad NH \\ CH_2.CO \diagup \end{matrix}$$

Mercury Succinimide may be prepared by dissolving freshly precipitated mercuric oxide in warm aqueous solution of succinimide and evaporating the mixture, which then deposits crystalline needles. (Schmidt's Pharm. Chemie, vol. II, pt. I, p. 482.) It may also be prepared by adding an alcoholic solution of succinimide containing a few drops of ammonia to an ethereal solution of mercuric chloride (Proceedings A. Ph. A., vol. 40, p. 1029). Mercury succinimide is a white crystalline powder, soluble in 25 parts hot water and in 75 parts of cold water, and in 300 parts of alcohol. It is very stable in solution. The aqueous solution is not affected by albumin. Mercury succinimide should be protected from light. Toward hydrogen sulphide and potassium iodide it reacts as an inorganic mercuric compound. Addition of sodium hydroxide to an aqueous solution of mercuric succinimide produces a yellowish-white precipitate, which on heating is reduced to metallic mercury. If mercuric succinimide is heated with five times its bulk of zinc dust, pyrrol is given off, which may be recognized by the red color which is developed when a pine shaving moistened with hydrochloric acid is held in its vapors.

The aqueous solution must be neutral and should not be affected by solutions of silver nitrate or egg albumin (absence of mercuric chloride and other mercuric salts).

On ignition it should volatilize completely, leaving no residue. If one gram is shaken with 10 Cc. of dry ether, the liquid filtered and the ether removed by evaporation, no residue should remain. If one gram is suspended in ether and hydrogen sulphide passed through the mixture for some time, the mercury succinimide will be decomposed, the mercury being precipitated as mercuric sulphide. If the ether be filtered from this precipitate, and evaporated, a residue of succinimide will remain which should have a melting point of 124-125° C.

Actions and Uses.—The succinimide of mercury has the action of other salts of mercury, but its solutions are said to be non-irritating. This preparation is used like other compounds of mercury in the treatment of syphilis.

Dosage.—The succinimide of mercury is used mainly by hypodermic injection, a 2.5 per cent. solution being employed. From ½ to 1 Cc. (8 to 16 minims) of this solution may be injected once daily. Mercuric succinimide may be given by the mouth in doses of 0.01 to 0.015 gm. (1/6 to 1/4 grain).

Non-Proprietary Preparation:

Tabloid Mercury Succinimide (Hypodermic) 0.013 Gm. (1/5 grain): Each tablet contains mercuric succinimide 0.013 Gm. (1/5 grain).
Prepared by Burroughs-Wellcome & Co., London and New York.

MORPHINE MECONATE.—Morphinæ Meconas.—Morphine meconate, $(C_{17}H_{19}NO_3)_2.C_7H_4O_7.5H_2O$, is the normal salt of morphine, $C_{17}H_{19}NO_3$, and meconic acid, $H_2(C_7H_2O_7)$, a dibasic acid obtained from opium.

Morphine meconate may be prepared by dissolving 10 Gm. crystallized meconic acid in 60 Cc. warm water, adding gradually 24 Gm., or sufficient crystallized morphine alkaloid to produce a neutral solution and evaporating to dryness at a temperature below 80° C. (176° F.). (Hager, 1903, vol. 2, p. 403.)

Morphine meconate occurs in minute colorless crystals or a yellowish white powder, soluble in 34 parts of water, also soluble in alcohol. It contains 66.3 per cent. anhydrous morphine.

Action, Uses and Dosage.—The same as other salts of morphine.

Non-Proprietary Preparation:

Tabloid Morphine Meconate (Hypodermic) 0.088 Gm. (1/8 grain). Each tablet contains morphine meconate 0.008 Gm. (1/8 grain).
Prepared by Burroughs-Wellcome & Co., London and New York.

SULPHANILIC ACID.—Acidum Sulphanilicum.—Acidum Sulfanilicum (Pharm. Helvetica, 4 edit.).—Sulphanilic acid, $C_6H_4(NH_2)(HSO_3)$ 1:4, is para-amino-benzene-sulphonic acid.

Twenty-five Gm. colorless aniline are gradually added to 75 Gm. concentrated sulphuric acid in a 250 Cc. flask and the mixture warmed to 180-190° C. under agitation for about three hours or until a drop of the mixture dropped into a solution of potassium hydroxide no longer gives indication of the presence of aniline. *At the end of the reaction the mixture is poured* into 500 Cc. cold water which precipitates the suphanilic acid as a grayish crystalline powder, it is treated with animal charcoal and recrystallized from hot water (Hager 1, p. 116).

Occurs as colorless crystals slightly soluble in water, and insoluble in alcohol and ether. It is decomposed at 280-300° C. It effloresces in air. It is soluble in 182 parts water at 10° C. and in 166 parts water at 10° C. It is not altered by boiling alkali, but fusion with alkali decomposes it yielding aniline. Chromic acid mixtures oxidizes it to chinon. Permanganate oxidizes it to *azo-benzene-sulphonic acid and an excess of this* reagent to carbon dioxide, sulphuric acid ammonia and oxalic acid. The cold saturated solution is not altered by hydrogen sulphide or barium chloride, but boiling with alkali should produce a visible change (Ph. Helvetica, iv, p. 18). One Gm. of the powdered acid treated with 3 Cc. zinc chloride solution should not be darkened. It should leave no residue on ignition (Ph. Helv.).

Uses and Dosage.—Internally (of doubtful value) in chronic catarrh of the respiratory mucosæ, 0.5 to 2 Gm. (10 to 30 grains) three times a day. It may be rendered more soluble by sodium bicarbonate. Its most important use is in Ehrlich's diazo-reaction for typhoid urines.

Proprietary Preparation:

SOLOID NIZIN.—Tablets, each of which contains 0.13 Gm. (2 grains) *of zinc sulphanilate.*

Actions and Uses.—Soloid Nizin is said to be an astringent and antiseptic. It is said to be useful in gonorrhea, in conjunctivitis and other eye affections.

Dosage.—One to three in 30 Cc. (one fluidounce) of water for urethral injection. One in 60 Cc. (2 fluidounces) for an eye lotion.

Prepared by Burroughs, Wellcome Co., London and New York.

(To be continued.)

Recurrences of Ectopic Pregnancy.—A. Chueco reports in the *Semana Medica*, Sept. 17, 1908, seven cases of recurring tubal pregnancy. It is remarkable, he says, how the second ectopic pregnancy runs the same kind of course as the first, either comparatively normal or tempestuous. He urges the necessity for examining the other adnexa when operating for an ectopic pregnancy. Gonorrheal infection does not seem to have anything to do with the abnormal localization of the ovum: its influence is rather against its inception of an extrauterine pregnancy, as the ovum can become imbedded only in sound tissue, and consequently an inflamed mucosa has a tendency to protect against abnormal location of the ovum. He warns against attempting to remove the placenta.

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[*For other information see second page following reading matter*]

SATURDAY, DECEMBER 26, 1908.

[The large amount of space occupied by the index this week makes it necessary to omit some departments and to curtail all.]

THE INDEX.

For some years we have been supplying with each volume of THE JOURNAL an index of unusual scope and one on which, of necessity, much thought and labor are expended. When it is realized that in the present index the number of titles and authors alone exceeds 26,000, a large percentage of which are referred to more than once, it does not require any technical knowledge to appreciate the mere mechanical difficulties involved. When it is also borne in mind that the arrangement, grouping and combining of these thousands of titles is not work that can be done mechanically by filing clerks, however intelligent, but requires the individual attention of those possessed of medical training, the reason for our question in an editorial last July, "Is it worth while?" becomes apparent.

Our readers' answer to the question — unequivocally and overwhelmingly in the affirmative — was both astonishing and pleasing. Replies poured in from all over the country and within a short time over 700 had been received. All but eleven were favorable, some writers even going so far as to state that this was the most important feature of THE JOURNAL. The response left no doubt in our minds as to the advisability or importance of continuing this department.

There seems to be some confusion as to the distinction between the three departments of the index—the "General Index," the "Index to Subjects" and the "Index to Authors"—particularly as to the first two. The "General Index" is simply an index to matter which has appeared in THE JOURNAL and differs in no way (except size) from that of any other medical publication. The "Current Medical Literature Index to Subjects," on the other hand, is an index, by titles and subjects, of articles which have appeared in the leading medical journals of the world (including THE JOURNAL), and is entirely distinct from THE JOURNAL index proper. THE JOURNAL page on which each may be found is given, and if an article has been abstracted that fact is indicated by "ab" after the page number. The "Index of Authors" includes all the authors of articles which have appeared in other publications as well as in THE JOURNAL.

These facts are fully explained in the introductory paragraphs on the first page of each department of the Index, but we mention them here because we have learned from our correspondence that these explanations are not read so carefully as they should be.

The Index is reprinted as a separate pamphlet, with the itemized lists of articles that have appeared in other periodicals as they have been published in THE JOURNAL week by week. This book is called the "Guide to Current Medical Literature" and it is reprinted in this form to facilitate reference, without the necessity for handling a bound volume or loose copies of THE JOURNAL. If its convenience and the scope of its usefulness were more generally understood the demand for this "Guide" would undoubtedly be much in excess of what it now is. Reduced to plain terms, it means that in it THE JOURNAL furnishes an index medicus of the world's literature that is complete and exhaustive enough for all ordinary purposes.

THE THYMUS GLAND IN EXOPHTHALMIC GOITER.

Of late years the treatment of exophthalmic goiter has received a marked degree of attention from clinicians and surgeons alike. The results of serum therapy have been favorable in a considerable series of cases, but so great has been the success of surgical treatment that the tendency has become rather widespread to advise operation in all patients not relieved by medical aid and in many without ever giving the newer therapeutic measures a trial. That this may prove in some instances a most unwise procedure is strongly suggested by some recent German publications.[1]

Capelle has found the presence of an enlarged or persistent thymus a frequent occurrence at autopsy on patients developing "delirium cordis" and dying within twenty-four hours after operation for exophthalmic goiter—so frequent, indeed, that in the absence of other positive findings it assumes considerable etiologic importance It has been customary to assign such deaths to toxemia consequent on absorption of perverted thyroid secretion, but instances are cited of hasty exitus following simple ligation of the arteries without undue manipulation of the gland, in which cases acute hyperthyroidism alone manifestly could not be the causative factor. The relation of persistent thymus to sudden death, especially following surgical operation, is not a recent observation; the so-called thymus death has been recognized for years. The frequent association of enlarged or persistent thymus with exophthalmic goiter has been known for at least a decade; attention was called to it by Bonnet, Hektoen, von Hanseman and others, Ord and

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[1] Capelle: Ueber die Beziehungen der Thymus zum Morbus Basedow, ii, Beitr. z. klin. Chir., Tübing., June, *1908*, lviii, 353-393; also Ein neuer Beitrag. zur Basedowthymus, München. *med.* Wchnschr., No. 35, Sept. 1, 1908.

Mackenzie asserting that the gland was enlarged in all cases of Graves' disease examined by them; but its presence in 80 per cent. of Capelle's series of over sixty fatal cases certainly gives food for thought.

The need for more careful examination of patients is apparent. Marked cardiac disturbance or evidence of the status lymphaticus, such as enlargement of the spleen and other glandular organs, hypertrophy of the adenoid tissue of nose and throat or hypoplasia of the genitalia, should make one suspicious. Careful percussion of the manubrium and upper chest may do much to establish a diagnosis which may be confirmed by the radiogram.

Is persistent thymus a contraindication for operation in exophthalmic goiter? This point remains to be established. The condition was a frequent finding in a considerable series of fatal cases: it may or may not have been present in a like number of successful ones; hence the need for more thorough investigation—*intra vitam* and preoperative. In analyzing cases of surgical cures the possibility of postoperative atrophy of the gland must, of course, be considered. Should it prove true that persistent thymus is rare in successful cases as it has been shown to be frequent in fatal ones—the inference is plain. On the other hand, if the condition is as common in one class as the other, even then the degree of thymic enlargement and the effect of feeding thymus preparations on the goiter symptoms, especially the tachycardia, may prove of prognostic value.

PSYCHOTHERAPY AND RELIGION.

The interest recently manifested by the church in psychotherapy may result in immense benefit, or in immense detriment, according as it is wisely or unwisely guided. As American, French and German psychologists have shown, psychotherapy benefits by employing mental forces which sometimes, indeed, run through religious channels and respond only to a touch which the subject recognizes as consecrated; yet these, if not controlled by some religious faith, may be utilized as well by the materialist as by the wild fanatic or the devout churchman. The "consolations of religion" are full of peace and hope—to those who can receive them. Thus they bestow that very condition of quietude and relaxation which releases the unconscious mind from the control of the conscious. This effect flows, not from the verity of any particular religious creed, but from the faith and reliance which the believer reposes in it. On the other hand, those not influenced by any religious tendency can obtain similar results through other means and forms of mental healing. Indeed, it is to be recollected that the extraordinary cures recorded by Drs. Bramwell, Bérillon and other physicians, as well as by certain clergymen, more especially, perhaps, in cases of insomnia, neurasthenia, hysteria and chronic alcoholism, are attributable chiefly to the skill of these men as psychologists.

The necessity for a campaign of education among laymen in regard to scientific psychotherapy, with a view to saving them from the "exaggerations and errors of the healing cults," is urged by the Rev. Chauncey J. Hawkins,[1] who asserts that people must be brought to regard psychotherapy as a scientific practice rather than a religious observance. The study of psychology and psychotherapy as a science, not as a cult, by the clergy is deserving of every encouragement. They should recognize that the cures effected by them are accomplished by calling into action those forces of which the subconscious mind is an unplumbed reservoir. In order to release these forces for their work the patient's tense will must be relaxed into absolute passivity and non-resistance. It is the conscious mind which forms the barrier that ordinarily restrains these reserve forces, and they are available for practical purposes only when the influence of the conscious mind is removed. Next to hypnotism, religious faith is without doubt one of the most powerful influences for removing this inhibiting influence of the conscious mind. When control has been gained of the reserve forces of the unconscious mind and they have been turned into the proper channels, the next step in subduing functional nervous disorders is to unify the forces of the subconscious with those of the conscious mind.

Further investigation by psychologists is needed to assay the proportions of truth and falsehood in the various modern attempts at mental therapeutics—as "faith cure," "animal magnetism," Eddyism, mental healing, divine healing—and to give them their proper valuation before the world. While it may be presumed that psychotherapy has but a limited sphere of usefulness, its application being restricted to functional nervous disorders, we must recognize the fact that the subjective or unconscious mind underlies all human nature; we must learn its powers and the methods by which they may be drawn forth. The public, moreover, is entitled to a full knowledge of the subject and the established psychologic principles underlying it. This the trained physician can furnish without being biased, either favorably or unfavorably, in regard to any existing religious creed.

One point, however, must be insisted on: the incorrectness of the prevalent belief that the control of bodily conditions by mental influences and the converse has been reserved for the last decade or two to discover and utilize. There has never been a period in the history of medicine in which psychotherapy has not formed part of actual medical practice—more or less superstitious, perhaps, in keeping with the age. This association of empiric practice based on unknown principles with known and recognized superstition has tended in the past to make physicians of scientific tendencies skeptical of the value of mental therapeutics; and this disdainful neglect by the strongest element of the profession has in its turn left the field of mental therapeutics open for the occupation of the numerous irregular cults. The problem now before the profession is to restore psychotherapy to its true place without allowing it to usurp that belonging to other therapeutic methods.

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[1] Congregationalist and Christian World, Boston.

Medical News

ILLINOIS.

Bars Publicity.—On the ground that newspaper publicity is foreign to the principles of ethics of the medical profession. the Madison County Medical Society adopted resolutions at its last meeting deploring the practice and requesting the publishers of newspapers to omit the names of physicians and their deeds from their columns.

Talk on Tuberculosis.—Under the auspices of the Monroe County Medical Society. Dr. James W. Pettit. president of the Illinois State Medical Society, delivered an instructive address to the laity of Waterloo, December 8. on the "Tuberculosis Problem," after which he addressed the society on "Medical Organization" and the "Ways and Means of Securing a Full Attendance at County Society Meetings."

Chicago.

Children's Hospital Benefit.—Miss Isadore Duncan's interpretation of "Iphigenia in Aulis," given for the benefit of the Children's Memorial Hospital and the Theodore Thomas Orchestra invalid fund, December 8, is said to have netted more than $10,000 for these charities.

Work of Milk Commission.—The milk commission of Chicago, of which Dr. A. Belcham Keyes is secretary, has issued a physician's order blank. on the back of which is a list of stock formulæ of milk for infants and a list of the milk stations where the milk may be obtained. The commission also issues leaflets on "Buttermilk Food for Infant Feeding," and "How to Take Care of the Baby." The latter leaflet is supplied in seven languages, and copies for distribution will be sent by the commission on application.

Communicable Diseases.—The chief medical inspector reports that during the week ended December 19, 744 cases were reported, a reduction of 115 from the preceding week. To this total, diphtheria contributed 210. 21 fewer; scarlet fever, 199, or 14 fewer; measles. 99, or 1 less; chickenpox. 46, or 1 less; pneumonia, 17, or 9 fewer; whooping-cough. 12, or 9 fewer; tuberculosis, 61, or 21 fewer; and minor contagious diseases, 26, the same as for the week ended December 12. At the close of the week there were 21 diphtheria patients in the isolation hospital.

Mortality of the Week.—There were reported to the Department of Health during the week ended December 19, 580 deaths, 43 more than for the preceding week and 12 fewer than for the corresponding week of 1907, the respective annual deaths rates per 1.000 being 13.95, 12.92. and 14.65. Impure air diseases caused 160 deaths during the week as compared with 186 in the corresponding week of last year. There were 22 fewer deaths from tuberculosis, 2 fewer from pneumonia. and 2 fewer from bronchitis. Pneumonia caused 90 deaths; heart disease. 60; tuberculosis, 50; violence (including suicide). 47; nephritis, 36; cancer, 35; acute intestinal diseases, 34; diphtheria. 23; scarlet fever and typhoid fever, each 12; measles and influenza. each 3, and whooping-cough, 1 death.

INDIANA.

Gift to Hospital.—Henry L. Wallace. Crawfordsville, has given $7.000 to the L. L. Culver Union Hospital for the maintenance of the Susan E. Wallace free bed.

Suggestive Therapeutist Found Guilty.—Charles Witty, said to be a graduate of the Weltmer school. Nevada. Mo.. who was tried in Vincennes for practicing medicine without a license. is said to have been found guilty and fined $25 and costs. He threatens an appeal.

Society Meetings.—The eighth semi-annual meeting of the Thirteenth District Medical Society was held in South Bend. November 18. Dr. Charles Stoltz, South Bend. was elected president; Dr. William Kelsey, Monterey, vice-president, and Dr. Jesse B. Porter, Elkhart, secretary.——At the annual meeting of Fort Wayne Medical Society, held December 1, the following officers were elected: President, Dr. Henry O. Bruggeman; vice-president, Dr. Carl Schilling; secretary, Dr. J. Clifford Wallace; treasurer, Dr. William P. Whery; and censors, Drs. Edward J. McOscar, Hermann A. Duemling and Samuel H. Havice. The society now has 108 active members, 2 honorary members and one non-resident member. The society has also established a sick benefit fund to be used for the relief of indigent members should necessity arise.——At the regular meeting of the Howard County Medical Society, held in Kokomo, December 4, the following officers were elected: President, Dr. Oliver P. Kemp, Center; vice-president, Dr. James O. Garr, Kokomo; secretary-treasurer, Dr. Will J. Martin, Kokomo (re-elected); censors, Drs. Nathaniel C. Hamilton, James W. Wright and Charles J. Adams, Kokomo, and delegate to the state medical society, Dr. J. McLean Moulder, Kokomo.——The Fort Wayne Academy of Medicine elected the following officers, November 19: President, Dr. Willis W. Carey; vice-president, Dr. Harold K. Mouser; secretary, Dr. Cecil C. Kimmel, and treasurer. Dr. Howard V. Blosser.——At the annual meeting of Wabash County Medical Society, held in Wabash November 25. the following officers were elected: Dr. Gilbert M. LaSalle, Wabash, president; Dr. George D. Balsbaugh. North Manchester. vice-president; Dr. Lawrence E. Jewett, Wabash, secretary-treasurer. and Drs. Snearly, Roann, Emma G. Halloway, North Manchester. and Perry G. Moore, Wabash. censors.——White County Medical Society met in Monticello, December 3. and elected the following officers: President. Dr. Madison T. Didlake. Monticello; vice-president. Dr. Arthur B. Cray, Monticello; secretary, Dr. Grant Goodwin. Monticello; treasurer. Dr. George R. Clayton, Monon; censors. Drs. Jesse P. Galbreth, Burnett's Creek, Horace R. Minnick, Idaville. and William A. Spencer. Wolcott; and delegate to the state association. Dr. Jesse P. Galbreth.——De Kalb County Medical Society reorganized at Auburn December 3, and elected the following officers: President, Dr. Verta M. W. Swartz. Auburn; vice-presidents. Drs. E. K. Schurtz. Waterloo, and Oswald F. Rudolph, Corunna; secretary-treasurer, Dr. Charles S. Stewart. Auburn. and censors. Drs. Jacob B. Casebeer, Auburn; Martin E. Klinger, Garrett, and William Shumaker, Butler.

IOWA.

Unlicensed Practitioner Fined.—In the case of W. L. Taylor, Des Moines, charged with practicing medicine in Iowa without a license, and sentenced to pay a fine of $500, the Supreme Court, on November 16. confirmed the decision of the lower court, and the fine stands. The defendant appealed on the statute granting immunity to original physicians who had practiced in the state previous to the law making them subject to examination by the State Medical Board. It was, however, shown that he had never applied for a license.

Societies.—At the annual meeting of the Second District Medical Society, held in Davenport, the following officers were elected: President, Dr. John F. H. Sugg, Clinton; vice-presidents, Drs. David N. Loose, Maquoketa, and John L. Klein, Muscatine, and secretary-treasurer, Dr. John V. Littig, Davenport.——At the thirty-eighth annual meeting of the Southeastern Iowa Medical Association, held in Burlington, November 19, the following officers were elected: President. Dr. J. Frederick Clarke, Fairfield; vice-presidents, Drs. J. H. Chittum, Wapello, and Clyde A. Boice, Washington, and secretary-treasurer, Dr. Edward F. LaForce, Burlington.

KENTUCKY.

Society Meetings.—At the meeting of the Muldraugh Hill Medical Society. December 10, in Louisville, a resolution was adopted petitioning the governor to appoint a member of the Kentucky State Medical Society as a member of the board of control in charge of the charitable institutions of the state.——At the annual meeting of Pendleton County Medical Society, held in Falmouth. Dr. Henry C. Clark. Falmouth, was elected president; Dr. Thomas C. Nichols, Morgan, vice-president; Dr. N. H. Ellis. Goforth, critic; Dr. P. N. Blackerby. censor. and Dr. William A. McKenney, Falmouth. secretary-treasurer.

Personal.—Dr. D. H. McKinley, Winchester, has been offered the position of assistant superintendent of the Eastern Kentucky Hospital for the Insane.——The following are the visiting staff for Riverside Hospital, Paducah. for December and January: Surgical, Drs. William J. Bass and James T. Reddick; medical, Drs. Charles H. Brothers and William T. Graves; obstetrical. Dr. Joseph B. Acree; genitourinary, Dr. T. J. Crice; and eye, nose and throat, Dr. Harry F. Williamson.——Dr. Jsoeph A. Sweeney, Louisville, is suffering from septicemia due to an autopsy wound.——Dr. William H. Wathen, Louisville, recently underwent an operation at St. Anthony's Hospital in that city.——The office of Dr. W. Boone McClure, Sherbourne, was burned by incendiaries November 9.

Appropriation for Milk Investigation.—The Jefferson County Fiscal Court has made an appropriation of $1.500 to defray the expense of an investigation of the milk supply of the city as regards the presence of tuberculosis. The work will be under the supervision of Dr. Cyrus W. Field, director of the laboratories of the University of Louisville, and Dr. F. T. Eisenman, state veterinarian. The court has already furthered the work of milk investigation by employing Dr. Letchworth Smith to make bacterial counts of the various market milks. Some of them showed a count of 75,000,000 bacteria per c.c., and all the samples examined showed a count far above the standard 10.000 per c.c. required by the milk commission for certified milk, except the milk under the control of the commission.

New Headquarters Opened.—The new headquarters of the Jefferson County Medical Society, on the seventh floor of the Atherton Building, Louisville, were opened December 14, Dr. George W. Crile, Cleveland, delivering the dedicatory address. The society has three rooms, one room used for a meeting-place which seats 250, and two smaller rooms, in which will be located the Jefferson Medical Library. In this library there are already more than 3.000 volumes, the libraries of the late Dr. J. A. Ouchterlony, David W. Yandell, and James W. Holloway, and current medical journals. The committee on permanent home of the society is composed of Dr. Lewis S. McMurtry, John G. Cecil, J. Morrison Ray and William Jenkins. Dr. McMurtry, in his address, called attention to the two epochs which had marked the year 1908 for the medical profession in Louisville, namely, the selection and equipment of a home for the society, and the merging into one, of the medical schools of the city.

MARYLAND.

New Hospital.—The Washington County Hospital Association has purchased acres in the northern suburbs of Hagerstown for $37.000, on which it is proposed to erect a hospital with barn and dairy building. An anonymous benefactor has promised a donation of $7,000 for the hospital.

Must Conform to Standard.—The attorney general of Maryland has rendered an opinion to the Maryland State Board of Homeopathic Medical Examiners to the effect that students applying to take examinations must hold diplomas from recognized homeopathic medical schools, and that those wishing to take examination from the regular medical board must have diplomas from a recognized regular medical school. The complaint has been made that the homeopathic board has passed individuals who had previously been rejected by the regular medical board.

Baltimore.

Memorial Meeting.—A meeting in memory of the late Dr. William Keith Brooks, head of the department of biology in Johns Hopkins University, was held December 6, at which addresses were made by Drs. Ira Remsen, William H. Howell, Henry M. Hurd, and others.

Alleged Abortionist Convicted.—Dr. Robert X. Giering, who was recently brought from San Francisco to stand trial for performing a criminal operation, is said to have been found guilty December 8, and to have been sentenced to six years in the state penitentiary. He had previously been fined $1,000 for a similar offense.

Faculty Changes.—The following changes have occurred in the faculty of the Baltimore Medical College: Dr. Robert W. Johnson has resigned the chair of principles and practice of surgery, and will be succeeded by Dr. Ridgeley B. Warfield; Dr. William E. Moseley has resigned the chair of gynecology and will be succeeded by Dr. William B. Perry. Both of the new appointees had previously been associate professors in the college.

Dr. Brush Honored.—Dr. Edward N. Brush, superintendent of the Sheppard and Enoch Pratt Hospital, was given a dinner at the Baltimore Club December 11, as an expression of the personal regard of his friends for him, in their appreciation of the great service he has rendered in the public and private care of the insane, and in celebration of his completion of thirty years of service in insane hospitals in New York, Pennsylvania and Maryland. Dr. G. Alden Blumer, Providence, R. I., presided, and among the speakers were Attorney General Bonaparte, President Ira Remsen of Johns Hopkins University, and Drs. George A. Pope and Charles K. Mills, Philadelphia, and Dr. William A. White, Washington, D. C. A cablegram of greeting from Paris from Dr. William Osler was read. Dr. Brush has been editor of the *American Journal on Insanity*; has been a prominent contributor to the literature of psychiatry; has been much interested in securing adequate legislation for the protection of the rights of the insane; has done much to uphold the medical profession, and as president of the Medical and Chirurgical Faculty of Maryland, has given valuable service to the plans for the erection of a permanent building for its use.

MASSACHUSETTS.

Fever Closes School.—South Lancaster Academy was closed by order of the health board December 8, on account of the prevalence of scarlet fever.

Bequests for College and Hospital.—By the will of the late Mrs. Grace M. Kohn, Boston, a bequest is made to Harvard University to endow a department of biologic chemistry, and $10,000 is bequeathed to the Massachusetts General Hospital.

Personal.—Dr. Thomas M. Stone, first assistant in the executive department of the City Hospital, has resigned and will be succeeded by Dr. White.——Dr. Eloise A. Sears has been elected a member of the school board of Waltham.——Dr. Arthur H. Davidson has been appointed examining physician of the street department, Boston.——Dr. William H. Briard, Brighton, has returned from a long tour in the south.——Dr. Charles W. Taylor, recently appointed a member of the board of health of Lowell, has been elected chairman of the board.

MICHIGAN.

Hospital Under Quarantine.—On account of an epidemic of scarlet fever in the University of Michigan Hospital, Ann Arbor, November 17, absolute quarantine has been established.

Illegal Practitioner Found Guilty.—In the case of Donald McDonald, a Presbyterian minister of Iron River for a number of years, charged at Menominee with practicing medicine without a license, the jury, on December 1, is said to have found him guilty, but sentence was deferred.

October Mortality.—During October, 3.202 deaths were reported to the department of state, equivalent to an annual death rate of 15 per 1.000 population. Diarrhea and enteritis of infants caused 374 deaths; violence, 215; tuberculosis, 191; cancer, 148; pneumonia, 112; typhoid fever, 102; meningitis, 16; diphtheria, 33; whooping cough, 25; influenza, 13; scarlet fever, 12, and measles, 11. As compared with September, an increase is shown in the deaths from tuberculosis, typhoid fever, scarlet fever, whooping cough, pneumonia, meningitis, influenza, cancer and violence. The number of deaths from the latter cause for the month was increased as a result of forest fires in the northern part of the state, as from Presque Isle alone, 24 deaths were reported. A slight decrease is noted for the month in measles and diarrheal diseases of children.

Dangerous Communicable Diseases in October.—The average number of persons ill with pneumonia, and the average of fatal cases was above that of recent months. There were 32 new cases of, and 192 deaths from, tuberculosis, the number of deaths being considerably greater than for the preceding month or the average for October. Typhoid fever was reported to be present in 192 localities, or 28 more than for the preceding month. Diphtheria was much more prevalent than in September, but slightly less prevalent than the average for October in recent years. The disease was reported in 72 localities, or 17 more than during the preceding month. Meningitis was less prevalent than in September, but more prevalent than for October in recent years, and of the 54 deaths which occurred from this cause, 13 were in Detroit. Whooping cough, measles and scarlet fever were much more prevalent than in September, but less prevalent than for the average for October. The latter disease was reported in 52 localities, or 17 more than for September. Smallpox was less prevalent in October than in the preceding month, and very much less prevalent than for the average for October in the preceding years. During the month, the disease was reported from only 8 localities.

MISSOURI.

Physician Fined.—Dr. Charles Hume, Columbia, is said to have been fined $80 in the Boone county court for writing an illegal prescription for whisky. The case has been appealed.

New Tuberculosis Sanatorium.—An ordinance has been passed by the council of Kansas City, appropriating $10.000 for the erection of a building to be devoted to the treatment of tuberculosis.

Personal.—Dr. Bernard H. Zwart, Kansas City, has been elected coroner of Jackson county.——Dr. Bennett C. Hyde has been appointed a member of the staff of the Kansas City General Hospital.

Individual Drinking Cups for School Children.—The school board of Eureka Springs has decided to provide the pupils with individual drinking cups in order to lessen the danger of communicating disease.

St. Louis.

Receipts from Tag Day.—As the result of tag day, which was held in St. Louis. November 28, $21,874 was collected for the hospitals in the city.

Antituberculosis Week.—The week of December 14 was made memorable in the work of the Antituberculosis Society by the concentration of effort to spread knowledge of how to combat the white plague. A lecture was delivered each evening in different parts of the city by the following speakers: Drs. Harvey G. Nicks, William L. Perry, Solon Cameron, Samuel P. Stafford, Robert M. Gallen and Emmett W. McBratney and Mrs. Philip N. Moore.

Contagious Diseases.—During the fortnight ended December 12. the sanitary division of the health department reported 354 cases of infectious diseases and 46 deaths, distributed as follows: Puerperal fever. 1 death; erysipelas, 17 cases, 1 death; diphtheria, 140 cases, 6 deaths; scarlet fever, 43 cases, 1 death; typhoid fever, 13 cases. 4 deaths; measles. 39 cases, 1 death; chickenpox, 28 cases; whooping-cough, 7 cases. and consumption, 67 cases. 32 deaths.

Fined for Practicing Medicine Without a License.—Max Joseph von Herzog. styling himself the "World's Prophet." is said to have been fined $200 and costs in the Court of Criminal Correction for performing the functions of a physician without a license to practice medicine. In his defense von Herzog claimed that he had not pretended to be a physician, and denounced medicine as a fraud, but the court held this to be irrelevant. The defendant's attorney gave notice of appeal.

Personal.—Dr. Henry C. Fairbrother. formerly professor of railway and military surgery in the medical department of St. Louis University. has been elected professional lecturer on medical economics in that institution. including medical ethics.——Dr. German A. Jordan. chief dispensary physician. has succeeded Dr. William B. Winn. resigned. as assistant health commissioner.——Dr. Roy L. Gleason, interne at the City Hospital, has resigned to accept a position in the United States Indian Service.——Dr. George W. Flinn has been appointed assistant physician at the insane hospital. and Dr. J. J. Burdick, Jr., assistant physician at the City Hospital.

NEW YORK.

Tuberculosis Pavilions Opened.—The new pavilions at the new tuberculosis hospital of Erie county, erected at an expense of $6.000, are completed and give accommodation for thirty-five additional patients.

Medical Staff Election.—The medical staff of Our Lady of Victory Infant's Home, West Seneca, has elected the following officers: President, Dr. Michael A. Sullivan; vice-president, Dr. L. G. Hanley; and secretary, Dr. Edward M. Tracy.

Milk Supply for Cities.—The state dairymen's convention, which met in Utica on December 9. discussed the supply of milk for cities. It was shown that if the cities were to have a clean milk supply the consumers would have to pay the bill. Professor Cook argued for fewer and better cows, better feeding and more select breeding. He said these would do more to eliminate tuberculosis than legislation, tuberculin and zealous boards of health.

New York City.

Boat School Open.—An outdoor day camp for tuberculous children will be opened on a ferry boat moored in the East River off Bellevue Hospital, where a school run on the plan of the country school will be held. From to 30 to 35 children can be accommodated, ranging in age from 6 to 15 years.

Disposal of Sewage.—The New York Merchants' Association has issued a book entitled "The Battle of the Microbes." The book is very exhaustive, but deals with the subject of disposal of sewage in terms easily understood by the layman. It will be widely circulated in all sections of the country for the purpose of spreading information in regard to sewage sanitation.

Higher Death Rate Among Women.—A comparative study of the statistics of 1368. which time marks the beginning of the entrance of larger numbers of women into industrial fields, with the records for the year 1907, shows that the death rate for women between the ages of 45 and 54 for the year 1868 was 17.69 per 1,000, as compared with 19.67 in 1907; between the ages of 55 and 64 the death rate in 1868 was 29.37, and in 1907, 38.43; for 65 years and over the rate for 1868 was 88.40, while for the year 1907 it was 97.30. From all diseases except tuberculosis the increase has been uniform. The diseases which showed this uniform increase were those most likely to be caused by sedentary employment. Dr. Guilfoy claims that the increase is due to the incursion of women into industry, conditions entirely alien to their lives forty years ago. Life insurance companies have long since recognized this condition and take account of it.

Milk Must Be Pasteurized.—After three years' study of the milk problem and practical experience in feeding babies, the New York milk committee on December 5, promulgated a formal statement in favor of pasteurization as the method of securing safety from tuberculosis and other milk-borne diseases. The declaration of the committee was in the following terms:

> During the past three years the attitude of the New York milk committee toward the use of pasteurized milk has been so frequently misquoted that we ask your attention to the following authoritative statement of its opinion and practices:
>
> The committee approves of the pasteurization of all milk which has not been produced under sanitary conditions, which has not come from tuberculin-tested cattle and cattle otherwise free from disease and which can not be supplied to the consumer with a sufficiently low bacterial content to offer safety from milk-borne infection.
>
> The committee approves of the pasteurization of milk when modified for infants' use in the home.
>
> The committee approves of all measures, individual. state or municipal, which will lead to the institution of sanitary conditions on dairy farms. The conviction has on two occasions led it to oppose measures directed toward the establishment of compulsory pasteurization of milk by the city or state authorities. on the ground that such measures would put the producers of direty milk on an equal footing with the producers of clean milk, and thereby postpone the institution of the desired sanitary reforms.

At the last meeting of the Board of Aldermen an ordinance was introduced for the better regulation of the milk traffic. This measure, if adopted, will prevent the sale in this city of milk and cream not pasteurized that comes from dairies where herds are not certified by the board of health to be free from tubercular disease. The certificates would have to be renewed monthly. The first two sections of the ordinance read as follows:

> Section 1.—On and after Jan. 1, 1909, no milk or cream shall be sold at retail or offered for sale at retail, in the city of New York, except as hereinafter provided, unless the milk or cream has been certified by the Department of Health as containing not more than 500,000 bacteria to the cubic centimeter.
>
> Section 2.—All milk and cream not from certified herds, or not conforming to the said bacterial standard, shall be pasteurized by exposure for at least twenty minutes to a temperature of 167 degrees Fahrenheit, or by exposure for at least thirty minutes to a temperature of 158 degrees Fahrenheit, under the supervision of the Department of Health, and sealed with a label showing said process, as hereinafter provided.

NORTH CAROLINA.

Deaths for October.—During October there were reported to the State Board of Health 296 deaths, equivalent to an annual death rate of 15.2 per 1.000. the chief causes of death being consumption, 53; diarrheal diseases, 32; brain diseases, 29, and heart diseases, 23.

October Morbidity.—There was reported during October measles in 11 counties in the state. whooping cough in 24 counties, scarlet fever in 30 counties, diphtheria in 55 counties, typhoid fever in 57 counties, malarial fever in 15 counties, cerebrospinal meningitis in 6 counties, pneumonia in 26 counties and varicella in one county.

What Constitutes Immoral Conduct.—At the last session of the State Medical Society, resolutions were adopted urging the State Board of Medical Examiners to revoke the license of any physician found guilty of illegally prescribing alcoholic liquors. An added interest has recently been given to this power of the State Board by the law authorizing the board to revoke medical licenses for grossly immoral conduct. In a recent decision of the Supreme Court of the state, the conviction of a negro lawyer for the illegal sale of liquor, was held not to be sufficient ground to disbar him from practice of law in the state. and since this decision many physicians have raised the question as to what conduct is considered sufficiently immoral to justify the revocation of the license.

OHIO.

District Society Meeting.—At the fifth annual meeting of the Eighth District Medical Society, held in Athens, November 19. Dr. Neal T. McTeague, New Lexington, was elected district president; the various presidents of the component county medical societies were made vice-presidents. and Dr. William E. Wright, Newark, was re-elected secretary.

Geer Jury Disagrees.—In the case of Dr. Norman M. Geer, Cleveland, charged with performing an illegal operation, the jury disagreed, and was discharged November 25. The patient refused to testify, on the ground that she would thereby incriminate herself. This is said to be the sixth time in twelve years that this individual has been freed from different charges.

PENNSYLVANIA.

Bequest.—The will of the late Miss Darlington, of Downingtown, bequeaths $7,292 each to the Chester County Hospital and the Presbyterian Home for the Aged, Bala.

Typhoid Fever in Reading.—The epidemic of typhoid fever in Reading is now reported to be under control as only 16 new cases were reported on December 8. The total number of cases recorded to that date was 579. The source of the infection was found in the city's water supply.

New Hospital.—A fund for a new hospital has been started in Altoona and a charter applied for, the corporation is to have a capital stock of $60,000. Two excellent sites have been offered by Councils for the building. The project is supported by twenty-three physicans and the directors include many prominent business men of the city.

Philadelphia.

Gifts to Hospitals.—Donation day was observed Thanksgiving day at many of the hospitals. Through Dr. Charles S. Turnbull, senior medical officer at the German Hospital, that institution received $5,000 from Dr. and Mrs. William W. McClure, in memory of their son, the late Dr. Sorden McClure, to endow a bed for the members of the First Infantry, N. G. Pennsylvania. In addition to endowing a bed valued at $5,000, in memory of his father and mother, George W. Benner gave $8,000 in cash and goods valued at $700 to this hospital. St. Agnes' Hospital was the recipient of $2,000, the contributions ranging from 50 cents to $500.

Officers Elected.—At the regular meeting of the Society of Normal and Pathological Physiology, the following officers were elected: President, Dr. David H. Bergey; vice-president, Dr. H. C. Hickey, and Secretary and Treasurer, Dr. Harold B. Wood. At the last meeting of the Southeastern Medical Society and the Eastern Medical Society, those two bodies united and will hereafter be known as the Southwark Medical Society. The following officers have been elected: President, Dr. Max Staller; vice-president, Dr. Aaron Bray; secretary, Dr. M. B. Cooperman, and treasurer, Dr. Jacob J. Frankel.——The Kensington Branch of the Philadelphia County Medical Society has elected the following officers: Chairman, Dr. John J. Gilbride; clerk, Dr. William T. Dempsey.——The Committee on Public Policy and Legislation of the Philadelphia County Medical Society, as recently constituted, consists of the following men: Drs. James B. Walker, L. Webster Fox, William S. Higbee, James M. Anders and John Ruoff.

TEXAS.

Society Merger.—The Parker County and Palo Pinto County Medical Association recently merged.

Sanatorium Burned.—The Cates Sanatorium, Abilene, was destroyed by fire November 27, at a loss of $10,000, with no insurance.

Smallpox.—The State Department of Health has been advised of an epidemic of smallpox among negroes and Mexicans at Encinal, LaSalle County. About seventy-five cases of smallpox are reported in the vicinity of Oak Forest, mainly among negroes and Mexicans.

District Society Meetings.—At the annual meeting of the Eighth District Medical Society, held in Victoria, Dr Edward A. Malsch, Victoria, was elected president; Dr. A. L. Lincecum, Louise, vice-president, and Dr. Caspar W. Letzerich, Sublime, secretary-treasurer. Wharton was selected as the next place of meeting——At the annual meeting of the Fifth District Medical Society, held in San Antonio, November 20, Dr. George H. Moody, San Antonio, was elected president; Dr. Ewarts V. DePew, San Antonio, was re-elected secretary, and Dr. J. W. Woolsey, San Antonio, treasurer.

Personal.—Dr. Eben S. Cox, Galveston, health officer of Galveston County, while hunting, November 22, was wounded by the accidental discharge of the rifle. He is reported to be doing well.——Dr. Charles H. Phillips, Tyler, has abandoned the practice of medicine for the ministry.——Dr. Rufus B. West, Fort Worth, has been appointed physician of Tarrant County, and Dr. Henry B. Trigg has been elected County Farm physician.—Dr. Benjamin M. Worsham, superintendent of the State Insane Hospital, Austin, has resigned, to take effect January 1. He expects to engage in private practice, after making a tour of Europe.——Dr. Thomas C. McCurdy, house surgeon of the Texas Pacific Hospital, Marshall, has resigned and his place has been filled by Dr. Clarence R. Williams, who in turn has been succeeded by Dr. Charles M. Hall, Hico. ——Dr. Marcel W. Sherwood, Gainesville, has been made house surgeon at Temple for the Santa Fe Railway Employees' Hospital, vice Dr. Mark E. Lott, resigned to take position of chief surgeon of the Texas Central Railway, with headquarters at Walnut Springs.

VIRGINIA.

State Buys Sanitarium Site.—The State Board of Health has purchased from the proprietor of the Roanoke Red Sulphur Springs, that property, which will be operated as a State Sanitarium for Tuberculosis. The price paid by the state was $18,774.

Personal.—Dr. J. C. King has been made superintendent of the Southwestern State Hospital for the Insane, Marion, vice Dr. Albert S. Priddy, resigned.——Dr. Christopher F. Newbill, Norfolk, has given up practice on account of ill health.——Dr. Charles R. Grandy has been elected secretary-treasurer of the Antituberculosis League of Norfolk.

Society Meetings.—The Southside Virginia Medical Association, at its twenty-third annual session, held in Emporia, December 8, elected the following officers: President, Dr. Charles W. Astrop, Surry; vice-presidents, Drs. T. M. Raines, Wakefield; Edward M. Parker, Emporia, Walter L. Devaney, Dendron, and Richard H. Sims, Powellton; secretary, Dr. Emmett F. Reese, Courtland, and treasurer, Dr. Otto C. Wright, Jarrett. The next meeting of the association will be held in Petersburg.——The Church Hill Medical Society, Richmond, at its annual meeting, December 10, elected the following officers: President, Dr. Benjamin A. Hord; vice-presidents, Drs. Charles W. Massie and George W. Gay; secretary-treasurer, Dr. Ramon D. Garcin; and executive committee, Drs. Wyatt S. Beazley, William H. Parker and John S. Horsley.——At the annual meeting of the Richmond Academy of Medicine and Surgery, held December 8, the following officers were elected: President, Dr. McGuire Newton; vice-presidents, Drs. Marvin E. Nuckols, Manfred Call and Albert W. Freeman; secretary, Dr. Mark W. Peyser (re-elected); assistant secretary, Dr. W. Brownley Foster; librarian, Dr. G. Paul LaRoque, and treasurer, Dr. William A. Shepherd.

GENERAL NEWS AND COMMENT.

Southern Gynecologists Elect.—At the annual meeting of the Southern Surgical and Gynecological Association, held in St. Louis, December 15-17, the following officers were elected: Dr. Stuart McGuire, Richmond, Va., president; Drs. John Young Brown, St. Louis, and Robert S. Cathcart, Charleston, S. C., vice-presidents; and Dr. William S. Goldsmith, Atlanta, Ga., treasurer. Hot Springs, Va., was selected as the meeting place for 1909.

International Society for Esperantist Medical Students.—An error occurred in our note on this subject (THE JOURNAL, Nov. 21, 1908, p. 1791). The secretary is not *Dr. Robin*, but Mr. A. R. Badert, 35 Rue Michelet, Tours, France, to whom all communications should be addressed.

Ophthalmology Congress.—Dr. G. C. Savage, Nashville, Tenn., has been made secretary of the American committee of the Eleventh International Congress of Ophthalmology, which will meet in Naples, Italy, April 2 to 7, 1909. Any member of the profession desiring information concerning this congress and concerning the cost of the trip will receive the information from him on request.

Pediatric Society Election.—At the annual meeting of the New England Pediatric Society, held in Boston November 28, the following officers were elected: President, Dr. Charles W. Townsend, Boston; vice-president, Dr. Addison S. Thayer, Portland, Maine; secretary-treasurer, Dr. Fritz B. Talbot, Brookline, and councilors, Drs. John Lovett Morse, Boston, Charles P. Putnam, Boston, and Arthur H. Wentworth, Boston.

Seaboard Physicians Meet.—At the thirteenth annual session of the Seaboard Medical Association, whose membership is composed of physicians of eastern North Carolina and southeastern Virginia, held in Washington December 1 to 3, the following officers were elected: President, Dr. Southgate Leigh, Norfolk, Va.; vice-presidents, Drs. J. W. Hathaway, Wimfall, N. C., C. D. Dellam, Norfolk, Va., Benjamin F. Halsey, Roper, N. C., and Robert L. Payne, Jr., Norfolk, Va.; secretary, Dr. John R. Bagbey, Newport News, Va.; treasurer, Dr. Israel Brown, Norfolk, Va., and orator, W. Thomas Parrott, Kingston, N. C. It was voted to hold the session of 1909 in Norfolk.

FOREIGN.

French Medical College in Cochin China.—The medical school founded by the French at Hanoi is reported in a flourishing condition, with 90 pupils. Its five graduates last year are in active practice and five more graduate this year.

Historical Medical Exhibit in Spain.—A retrospective medical museum is being organized by the Madrid Medical Society, the *Colegio de Medicos,* and interesting medical treasures, forgotten in attics, are being rediscovered throughout the country. A good start with the museum has already been obtained by donations from Madrid physicians.

Educational Circulars for Protection Against Infectious Diseases.—The Italian government is issuing a series of circulars, written in popular style, for free distribution among the masses, to instruct them in the measures to protect the individual against infectious diseases. Thirteen have already been published, dealing each with a separate disease: Smallpox, scarlet fever, measles, typhoid, cholera, dysentery, miners' anemia, tuberculosis, malaria, diphtheria or trachoma.

Fourth Latin-American Medical Congress.—The official bulletin of the next Latin-American congress states that the meeting will convene at Rio de Janeiro in August, 1909. Nine sections have been organized and the work of the congress is well under way. The editor of the *Brazil-Medico,* Prof. A. de Azevedo Sodré, is the president of the committee on organization, and Prof. A. Peixoto, also on the editorial staff of the *Brazil Medico,* is the secretary general. An exhibition of hygiene is to be one of the features of the congress. Address, rua da Uruguayana 5, Rio de Janeiro, Brazil.

Yellow Fever Commission for the French Colonies in the Antilles.—The recent small epidemic of yellow fever at Saint-Nazaire on the French coast has impressed on the authorities the necessity for more effectual measures against yellow fever in the French colonies, whence the disease was imported. The task was entrusted to Drs. Simond and Marchoux, who spent some time in Brazil two or three years ago in study of tropical diseases. They left for Martinique November 11, fully equipped for the extermination of yellow fever and malaria mosquitoes in Martinique and Guadeloupe.

Occupational Affections.—The permanent international committee for the study and prevention of occupational diseases, of which Professor De Cristoforis of Milan is chairman, has published a circular with instructions for prevention of lead poisoning, and has distributed thousands of copies among the pupils of the technical schools and the workmen in industrial establishments in Italy. The committee has also succeeded in having a section for occupational affections included on the program of the approaching International Medical Congress at Budapest. Milan was the first city to establish a dispensary and clinic exclusively for professional or occupational affections. It owes its inception to and is in charge of De Cristoforis.

PARIS LETTER.

(From Our Regular Correspondent.)

PARIS, Dec. 12, 1908.

An Inquiry Into the Privat-Docent System.

Among the various projects for reform in medical education now being discussed (Paris Letter, THE JOURNAL, Oct. 19, 1908, li. 1023), is one for the suppression of the position of *professeur agrégé,* the lowest grade of the teaching body, which it is proposed to replace by the privat-docent system, in vogue in Germany and elsewhere. The partisans of the *statu quo* (Professor Bouchard, among others) maintain that Germany herself suffers from this institution and is seeking to be rid of it; but the results of an inquiry recently made in Germany in regard to the privat-docent system do not support Bouchard's views. Professor Bier of Berlin says that he has never heard that any one wished to abolish the privat-docent system, and that he is sure that such a project would arouse the hearty opposition of the professors. Bier himself believes that the privat-docents are indispensable to the students, and impart a large share of the instruction given. The great majority of the most celebrated German professors have emerged from the ranks of the privat-docents. Bier and other German professors do not believe that the professional or material interests of the practitioners are at all injured by the privat-docents. Dr. Cohn of Frankfort writes that, far from wishing to suppress the privat-docent system, Germany is proud of it, for to this institution the Germans owe their remarkable progress in many branches for which there are no professors at the universities. These young scientists have conquered for their specialties the right of existence.

Compulsory Physical Education.

The reduction of the term of military service in France to two years has created a demand for previous training of young men. Formerly, when they were kept in the army for seven, five or three years, military instruction was comparatively easy. To obtain the same result in two years, however, it is necessary that the recruits shall undergo preparatory training. Numerous societies (5,065 in all, with 869,000 members) have been formed for gymnastics, military instruction, drilling, athletic sports, etc., to prepare the recruits for their vocation. But the task of the physical education of young people ought to be more generally undertaken. A bill providing for the compulsory physical education of all pupils in public schools has accordingly just been submitted to the parliamentary committee on physical education.

The Hygiene of Lodging-Houses.

The prefect of police has just issued an ordinance regulating the sanitation of furnished lodgings. This prescribes the cubic air-space which each room offered for rent must contain per person, and enumerates the measures which the lodging-house keeper must take in respect to rendering the floors impermeable and covering and cleaning the walls. The rooms are to be suitably ventilated; when they contain more than four lodgers, they are to be provided with a flue or some other permanent means of aëration. In the rooms on the ground floor, where dampness might be felt, the lower portion of the walls is to be covered with an impermeable coating or with a wainscoting isolated from the wall at least up to five feet from the floor.

The ordinance forbids the renting for furnished lodgings of rooms which are not either lighted and aired directly or from a vestibule or corridor which itself receives the light and air directly from outdoors. Every room which contains more than two persons must be lighted directly. It is forbidden to rent cellars and basements for lodgings. In the case of epidemic or contagious maladies occurring in a lodging-house, a physician will be officially sent to ascertain the nature of the malady, and the lodging-house keeper will be held responsible for obedience to the directions for preventing the spread of the disease, such as isolation of the patients, disinfection of linen, etc.

BERLIN LETTER.

(From Our Regular Correspondent.)

BERLIN, Nov. 26, 1908.

Overproduction of Medical Literature.

The well-known tendency of the Germans to found associations finds an analogy in the passion for publishing periodicals, and this peculiarity has manifested itself to an actually alarming extent in the field of medicine. Already in 1903 there were about 240 German periodicals in medical literature, and since then dozens of new organs have been founded. It is indeed not too much to claim that Germany stands at the head of all civilized nations in the extent of its medical literary output, a fact that I do not wish to emphasize in a boasting spirit, for naturally the value of the contents does not correspond to the extent and number of the articles published each year. Only a certain fraction of this literature deserves in reality to have seen the light of the world. Although much has been written and is still being written against this practice, no improvement is either to be demonstrated or even hoped for.

Lately a new journal has been founded which opens up a very objectionable prospect for the extension of our literature. As if it were not enough that three or four journals exist for urology, which indeed constitutes a very recent special field (there is much room for discussion as to the propriety of separating it from surgery), there has now been introduced a journal devoted exclusively to gynecologic urology, the *Zeitschrift für gynäkologische Urologie,* on the specious ground that the other journals devoted to urology do not cover this special field. If this idea should happen to act fruitfully on publishers and on those physicians who feel a call to editorial work, there will soon be separate journals for surgery, internal medicine, nasal diseases, ear diseases, etc., in men, in women, and in children! It seems incredible that publishers can be found willing to invest their money in such undertakings in which success can scarcely be anticipated, even by the most determined optimist. But whether such an enterprise becomes a financial success or not, it will be kept up, even if at a sacrifice, and literature be injured by it. A review of what appears in German medical literature is no longer possible for any one; it is impossible to keep up fully with the literature even of one's own specialty And yet if in any work this or that previous publication fails to receive notice unedifying polemical discussions ensue which in their turn increase the ballast of medical literature

Lately it has become a favorite practice when an editor undertakes the foundation of a new journal for him to employ as a leading team to introduce his organ a group of more or less well known authors whose names he puts on the title page as the editorial staff or publishers the *Herausgeber* Mere vanity causes even scientists of wide reputation beyond the need of advertising themselves to give their consent to this measure and allow the use of their names as a sign board for new journals of this description In the rarest cases only do these 'publishers" who in the true sense of this term are responsible for the contents of their journal cast more than a glance at the various issues of the journal Thus it happens that they protect with their names a publication which is a disgrace to the literature A scandal which will perhaps finally open the eyes of some of these gentlemen appears to have developed in relation to one of these publications Two years ago there was founded in Berlin the *Zeitschrift fur neuere physikalische Medizin* (editor Dr Zikel) which according to the title page constitutes a professional organ for the practically important methods of the newer diagnosis and physical therapy As "publishers ' in addition to some unknown foreign physicians distinguished German scientists were introduced such as Czerny and Erb (of Heidelberg), von Leyden von Noorden v Strumpell etc For every reader of any observation there was something at least suspicious in the editorial and advertising columns of even the very first number of this journal From both parts one gets the impression that under the cloak of science commercial aims were being pursued It was not quite clear in whose favor this course was followed as the remedies recommended were changed in the course of time Lately the zeal of the editor seems to have turned especially to the promotion of an article known as Kathreiner's Malt Coffee, and at the same time chicory as a substitute for coffee was denounced (evidently from the same point of view) A few weeks ago a pamphlet appeared written by the head of a Bremen coffee firm which characterized the *Zeitschrift fur neuere physikalische Therapie* as a business scheme of the Kathreiner Malt Coffee factory According to this pamphlet the edition of the journal amounts to 4 000 copies of which however in reality only 100 to 150 are sent to actual subscribers while all the other copies are distributed gratis to physicians advertising agencies etc The articles against coffee are said to have been secured by the business manager of the Kathreiner Malt Coffee factory, Mr Aust, a leading business man in Munich and all had to be submitted to him for approval before they were printed

I omit the particularly severe accusations which were made against the editor Dr Zikel and confine myself merely to the concluding summary of the author of the pamphlet In it he accused Dr Zikel of scientific imposture, he claimed that this fraud was undertaken in the interests of Kathreiner's Malt Coffee factory and he claimed that Dr Zikel himself was one of the most venal members of the medical profession Dr Zikel has now under the pressure of this accusation felt himself compelled to have proceedings instituted against himself before the Berlin Court of Honor in order to exculpate himself from the accusation The outcome of this proceeding is naturally awaited with great interest Already the pamphlet has had the result that some of the professors listed as publishers" have explained that their names were used without their knowledge and without their consent Surely this fact permits an unfavorable conclusion regarding the other editorial acts of Dr Zikel

The Appropriations for Medical Purposes for 1909

The budget just sent to the Reichstag by the imperial government contains the following apportionments for medical purposes For the fight against typhoid as in former years 200 000 marks ($48 000) For investigation of syphilis 30 000 marks ($7 200) For the campaign against infant mortality again 40 000 marks ($9 600) For the fight against tuberculosis again 120 000 marks ($28 800) For a statistical investigation of industrial accidents which was taken up in 1907 250 000 marks ($60 000) were set apart as the last installment A convalescent home is to be erected at Bad Nauheim for which the imperial government appropriates 13 000 marks ($3 120) The burden on the empire on account of the invalid insurance law amounts for the year 1909 to about 51 500 000 marks (nearly $13 000 000)

The Nobel Prize for Medical Research

This year's Nobel prize for medicine (about 150,000 marks —$36 000) is to be divided between Metchnikoff of Paris and Ehrlich of Frankfurt a M It is perhaps a question as to which of the two scientists is the more deserving At any rate it may be claimed that scientific and practical medicine has Ehrlich to thank for more progress than is due to Metchnikoff Ehrlich is now in the full vigor of his activity and lately delivered before the German Chemical Society here a very inspiring address on the present status of chemotherapy, which permits very remarkable glimpses into the further development of this branch of science Ehrlich's researches in regard to diphtheria antitoxin, which first made possible the practical application of v Behring's discovery and his investigation of cancer, etc, are achievements of the first rank Metchnikoff's activity in scientific investigation practically ceased some years ago, his more recent publications on natural death in old age and on a curative serum for old age show that we can hardly expect any further notable achievements from him

Care of Parturients

The trades committee of the Reichstag is considering a bill which requires that parturient women shall not be employed for eight weeks before and after delivery The resumption of work shall be conditioned on evidence that at least six weeks have passed since parturition Childbirth is to be classed with sickness so far as the right to sick benefit is concerned At present it is left to the discretion of the sick benefit societies the *Krankenkassen* whether they shall allow the parturient pecuniary aid or not

The Campaign Against Tuberculosis

In connection with the celebration of the hundredth anniversary of its incorporation as a Prussian city the municipal authorities of Schoneberg (near Berlin) have devoted 250,000 marks to combating tuberculosis With this sum a sanatorium for lung affections is to be built and a convalescent home for weakly children is to be founded on the island of Fohr, in the North Sea

VIENNA LETTER.

(From Our Regular Correspondent)

VIENNA, Dec 12, 1908

American Students in Vienna.

The American colony in the Vienna hospitals is not as large now as it was a couple of years ago Still, there are many physicians from the United States among the students, and it is notable that there are more earnest workers The men who used to take only a class or two and who then returned as full fledged specialists have disappeared almost completely for some unknown reason—perhaps the hard times of last year or perhaps 'natural selection" The classes comprise the whole scope of medicine and surgery, otology and laryngo rhinology are prominent subjects

Protection of Children from "Sweating."

In a recent bill the government proposes modern regulation of home work and especially child labor Thus, no child under 12 may be employed or hired out, as is the custom here for indoor work involving undue strain on the eye or the whole body or special attention to a machine No child under 14 may be kept working indoors longer than four hours For outdoor occupation, children must be at least 10 years old, and up to the age of 14 must not be employed in carrying heavy loads A series of inspections of rural factories, stone quarries brick factories and the like have given ample proof, not only of the fact that the health of children employed there suffers, but that the race tends to degenerate if children of early age are exposed to undue strain for a long period, and that the morality and temperate habits as well as the physical constitution, of children subjected to such strain are apt to suffer seriously The bill proposes the creation of special inspectors perhaps female for industrial concerns in the rural districts In cities strict compliance with the law is ensured by the power given to school authorities to report all cases in which violation is suspected Elementary education is compulsory so neglect is easily observed At present about 30 per cent of children in the country must help their parents in their work but such labor will not come within the scope of the law if it can be shown that the children are not overtaxed To badly developed children between the ages of 14 and 16 the same rules will apply as to younger ones

Pharmacology

THE ALPHA MEDICAL INSTITUTE.

Another Fraudulent Concern Closes Its Doors.

The Alpha Medical Institute of Cincinnati, a "consumption cure" fake has gone out of business. This concern, which was one of the Great American Frauds exposed by Samuel Hopkins Adams, was founded by the late Dr. Thomas W. Graydon, who "amassed a fortune from his understanding of the financial possibilities of tuberculosis." In its advertising pamphlet the "institute" is pictured as a large and commodious building bearing its sign; no such building ever existed outside of the imagination of the advertising agent. The "treatment" itself was "a combination of worthless inhalation with worse than worthless medicines." In discussing this concern and detailing the result of his personal interview with its manager, Mr. Adams says of the latter: "His one argument was that he could produce testimonials, and his one plea, that the institute ought not to be 'pounded' as it was going out of business in a few months, anyway. This means that the field is exhausted; that, as invariably will happen, the accumulated force of experience, proving the Alpha Medical Institute to be a fraud, has finally overcome the counter-force of its advertising. Probably its proprietors (I understand that Dr. Graydon's sons have got rid of the business as a baneful influence on their social aspirations) will presently start up under some other name."

While the Alpha Medical Institute was doubtless in a sickly condition, it was the United States government which gave it the *coup de grâce*. After considerable evidence had been collected, the Postoffice Department cited the company to show cause why a fraud order should not be issued. Instead, a representative of the company pleaded guilty—and that is Omega of Alpha.

Perspiro and Its Genesis.

Detroit, Oct. 18, 1908.

To the Editor:—A medical friend wrote a prescription for one of his patients for excessive sweating of the feet, the formula being that of the well-known Thiersche's powder:

℞.	gm.		
Salicylic acid	1	or	gr. xv
Boric acid	*10*		*ʒiiss*

The patient discovered he had a "good thing" and has placed it on the market under the euphonious name of "Perspiro." He sells with the powder twelve 1-grain tablets of permanganate of potash with instructions to soak the feet each night in hot water in which is dissolved one of the permanganate tablets. The salicylic acid in the powder attacks the socks so that they are soon full of holes.

E. T. Milligan, M.D.

A "Shot Gun."

The following prescription was given by a physician to a patient during the last three months:

℞. Merck's Colchicin
" Strychn. Phos., āā ....grs. ii
" Sod. iodid
" " salicyl., āā ....ʒx
Tr. Belladonnæ
" Bryonia alb., āā ....ʒii
" Capsicum ....ʒi
" Arnica mont
" Pulsatilla
" Rhus tox. āā ....ʒv
" Phytolocca ....ʒx
" Cimicif. Rac.
" Colchicum. āā ....ʒxv
Reed and Carnick's Elix. Peptenzyme........ʒlx

M. S. Take sixty (60) minims (drops) in a glassful of water, an hour after each meal. Take every 2 hours if very severe.

The Abuse of the Tablet.

The convenience of the tablet form of medication has doubtless developed in the medicine-taking public a dangerous contempt for potent drugs that has been bred of familiarity. This was recently exemplified by the case reported in our British contemporaries of a woman who took thirteen aspirin tablets between 3 p. m. one day and 10 a. m. the next. She died of heart failure and, in accordance with the medical testimony, a verdict was returned of death accelerated by an overdose of aspirin.

The very advantages that a tablet has in case of administration, convenience and portability, are in themselves elements of danger when drugs in this form are indiscriminately used by the public.

Correspondence

The Burial Place of Dr. John H. Rauch.

Lebanon, Pa., Dec. 13, 1908.

To the Editor:—In several recent numbers of The Journal I find tributes to the memory of Dr. John H. Rauch. George Homan, M.D., Secretary of the State Board of Health of Missouri, states that he does not know where the body of Dr. Rauch is buried or whether the spot is marked by any memorial adequately showing the vastness and value of his work.

Dr. John H. Rauch reached Lebanon, Pa. (his birthplace and the home of his relatives) from Chicago, wearied, worried, despondent and in ill health, in the autumn of 1893. Nevertheless, his interest in his life-work forced him to continue writing to The Journal and collecting data on the topics in which he was interested.

His family life with his relatives here was very pleasant and seemed to cheer him, but on the morning of March 24, 1894, I was hurriedly called to his brother's home, where he was staying, to find him dead in his bed; he had retired, complaining of a pain on his chest, but during the night had not called for any attention by the family; he had apparently died several hours before daybreak. His body rests in our local cemetery.

As an old friend, he spent much of his time in my company, and I know he felt keenly his retirement from active participation in the work to which he had devoted himself and the ingratitude manifested.

The effort of the medical profession, and especially of the State of Illinois, to honor his work and his memory, comes late, but will, I hope, result in some suitable action. His interest in the public park system of Chicago, which he originated as a health measure as well as a matter of civic pride, might earn for him a recognition in naming one of the parks for him, or in erecting in one of them a monument reciting his activities in federal, state and municipal work.

W. M. Guilford.

Legislation on Animal Experimentation in New York.

New York, December, 1908.

To the Editor:—Last winter two decided efforts were made before the legislature of this state by two separate organizations to secure the enactment of laws seriously restricting animal experimentation as a means of established scientific medical progress. These efforts will be repeated during the coming session of the legislature. On Nov. 11, 1908, a concert was given in this city by the New York Antivivisection Society for the purpose of advancing their aims in this respect. A pamphlet is now being circulated among physicians and others in various parts of the state by the Society for the Prevention of Abuse in Animal Experimentation, calling attention to the assumed horrors of vivisection and urging support in the effort which the society will make at the coming session of the legislature to secure restrictive legislation. This pamphlet, a typical piece of antivivisection literature, is evidently the work of one whose eyes are shut to the real state of facts, for the allegations made therein are unjustified and unsupported by proof. They are based largely on obsolete European methods. No reliable evidence that needless suffering is inflicted in animal experimentation in laboratories or elsewhere has been brought to light by the opponents of vivisection Eminent legal authorities assure us that the law as it exists to day in the State of New York is sufficient to punish all, if there be such, who are guilty of cruelties in animal experimentation.

If restrictive laws pertaining to this subject are introduced into the legislature this winter, the Medical Society of the State of New York will oppose them. In the meantime we urge the public to refrain from accepting as true such a misleading picture as is presented in the pamphlet above referred to The Medical Society of the State of New York is prepared to furnish literature expressing the truth regarding animal experimentation and also to furnish speakers for clubs and societies that are interested in this subject.

Frank Van Fleet, M D,
Chairman, Committee on Legislation, Medical Society of the State of New York

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U S Army, week ending Dec 19, 1908

Greenleaf, H S, capt, granted leave of absence for 30 days

Maus L M, col, relieved from duty as chief surgeon, Department of Luzon, and ordered to report as chief surgeon, Philippine Division, relieved from duty in Philippines Division, April 15, 1909, and ordered to San Francisco, for orders

Crampton, L W, col, relieved from duty in charge of the medical supply depot, St Louis, in time to sail March 5, 1909, from San Francisco, for duty in the Philippines Division

Reed, H A, lieut, ordered to Ft Bayard, N M, for treatment at the Army General Hospital

Hoff, J V R, col, granted leave of absence for two months, with permission to return to the U. S via Europe

Lewis, W F, major, granted leave of absence for 15 days

Torney, G H, col, granted leave of absence for 15 days

Shepheid, J M, M R C, died Dec 11, 1908 at Salt Lake City, of general peritonitis, complicated with appendicitis

Lugo-Vina, Jose, cont surg, contract annulled Nov 23, 1908

Murray, Wilson, and Dougherty, J C, cont surgs, contracts annulled to accept active duty in the M R C

Dosher, J A, cont surg, contract annulled Dec 3, 1908, services being no longer required

Stallman, G E, dent surg, left Fort Sill Okla, for duty at Fort Sam Houston, Texas

Whinnery, J C, dent surg, left Ft Ward, Wash, for duty at Fort George Wright Wash

Tignor, E P, dent surg, left Ft Howard, Md, and arrived at Ft McHenry, Md, for duty.

Navy Changes.

Changes in Medical Corps, U S Navy, for week ending Dec. 19, 1908.

Riggs, R E, P A surgeon, granted leave under exceptional circumstances with permission to visit the United States to take effect about December 19 and to terminate on departure from Newport News, Va, of the transport to sail for Havana, Cuba, about December 31

Robnett, A H, asst surgeon Camp Columbia, Cuba will proceed to Santo Domingo, Province of Santa Clara, Cuba and report December 17 for temporary duty during absence on leave of P A Surgeon R E Riggs

Alderman, C G, asst surgeon, granted sick leave for three months when discharged from treatment at the naval hospital, Las Animas Colo

Brown, E W, asst surgeon, unexpired portion of sick leave revoked, ordered to course of instruction at the Naval Medical School, Washington D C

Rothganger, G, surgeon, transferred to the retired list from Dec 10 1908 in accordance with the provisions of section 1453 of the Revised Statutes

Brooks, F H, asst surgeon, detached from the naval recruiting station, Cleveland Ohio, and ordered to the *Franklin*

Thomas, G E, acting asst surgeon, ordered to the naval hospital, navy yard Boston for duty

Thompson, F. W, acting asst surgeon, appointed acting assistant surgeon from Dec 12, 1908

Randall, J A, P A surgeon, detached from the *Rainbow* and ordered to duty at the naval hospital, Canacao P I

Balch, A W, P A surgeon, detached from the naval hospital, Cavite, P. I, and ordered home via the *Concord* and *Supply*

Lee, A E, asst surgeon, detached from the *Concord* and ordered to the *Rainbow*

Downey, J O, asst surgeon detached from the *Charleston* and ordered to duty at the naval hospital, Canacao, P I

Higgins M E, asst surgeon, detached from the naval hospital, Canacao, P I, and ordered to the *Charleston*

Butts, H asst surgeon detached from the naval hospital, Canacao P I and ordered to the naval station, Cavite, P I

Alexander, C E, pharmacist, detached from the *Relief* and ordered home via the *Concord* and *Supply*

Public Health and Marine-Hospital Service.

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine Hospital Service for the seven days ended Dec 16, 1908

Lavinder, C H P. A surgeon on arrival of Assistant Surgeon Lasher Hart, relieved from duty at Stapleton, N Y, and directed to report at the Hygienic Laboratory for temporary duty

Ramus Carl, P A surgeon, granted 2 days' leave of absence from Dec 7, 1908, on account of sickness

Earle, B H P A surgeon granted 12 days' leave of absence from Dec 24 1908

Burkhalter, J. T, P A surgeon, granted 1 month's leave of absence from Dec 19, 1908

Foster A D, P A surgeon, relieved from temporary duty at Angel Island, Cal, on or about Jan 5, 1909, and directed to proceed via Manila P I, to Amboy, China, for duty in the office of the United States consul

Olesen, Robert, asst-surgeon, relieved from temporary duty at San Francisco on or about Jan 5 1909, and directed to report to the chief quarantine officer of the Philippine Islands

Hart, Lasher asst surgeon, relieved from temporary duty at Hygienic Laboratory, and directed to rejoin station at Stapleton, N. Y

Hunt, Reid, Chief Division of Pharmacology, Hygienic Laboratory, granted 9 days' leave of absence from Dec 11, 1908

Cleaves, F H, acting asst surgeon, granted 10 days' leave of absence from Dec 19, 1908

Hume, Lea, acting asst surgeon, granted 10 days' leave of absence from Dec 15 1908

Parker, T F, acting asst surgeon, granted 5 days' leave of absence from Dec 27, 1908

BOARD CONVENED

Board of medical officers convened to meet at the bureau on Jan 11, 1909, for the examination of assistant surgeons for promotion to the grade of passed assistant surgeon, and for the examination of candidates for admission to the service as assistant surgeon Detail for the board Surgeon G W Stoner, chairman Passed Assistant Surgeon Joseph Goldberger and Passed Assistant Surgeon B S Warren, recorder

Health Reports.

The following cases of smallpox yellow fever, cholera and plague have been reported to the Surgeon General Public Health and Marine Hospital Service, during the week ended Jan 18, 1908

SMALLPOX—UNITED STATES

California San Francisco, Nov 22 29, 3 cases.
Illinois Danville, Nov 30 Dec 6, 1 case
Indiana Lafayette Dec 1 7, 4 cases
Kansas Kansas City, Nov 28 Dec 5, 1 case; Topeka, 5 cases.
Louisana New Orleans, Nov 28 Dec 5, 1 case, imported
Michigan Grand Rapids, Nov 14 21, 1 case
Minnesota Stillwater, Nov 1 30, 1 case
Montana Butte Nov 24 Dec 1, 3 cases
Ohio Cincinnati, Nov 27 Dec 11, 15 cases
Tennessee Knoxville, Nov 28 Dec 5, 1 case
Wisconsin LaCrosse, Nov 28 Dec 5, 4 cases, Manitowoc, Nov. 21 Dec 5, 21 cases

SMALLPOX—FOREIGN

China Amoy (Kulangsu), Oct 10 Nov 8, 2 deaths
France Toulon Oct 1 31, 1 case
Italy General, Nov 15 22, 25 cases; Naples, 15 cases

YELLOW FEVER

Mexico Mexcanu, Nov 21 28, 1 case; Merida, 3 cases, 1 death; Vera Cruz, 1 case

CHOLERA.

Russia General, to Nov 14, 27,160 cases, 12,802 deaths

PLAGUE

Azores Terceira, Oct 1 31, 53 cases, 33 deaths
India General, Oct 17 31, 4,186 cases, 3 841 deaths
Peru General Oct. 27 Nov 4, 30 cases, 21 deaths, Callao, Nov 14, 2 cases, Lima, 2 cases

Queries and Minor Notes

Anonymous Communications will not be noticed Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed

ALLEGED CONSUMPTION CURES

Castroville, Texas, Dec 9, 1908

To the Editor:—Referring to the exposures of "Consumption Cures," I would like to call attention to a statement in "Ancient Pharmacy and Medicine," Peters, translated by Dr Netter, in which it is stated that the first "patent medicine' was a "consumption cure' called "Tuscarora Rice" sold by a Mrs Masters in 1711 in the United States It would seem that the cure of consumption has always been a fertile field for robbing the unfortunate by new *discoveries*"

J I F

DEFINITION OF INCIDENCE

To the Editor —Please define the word "incidence," as used under "Cholelithiasis. Etiology' in the Program for the Second Six Months of Postgraduate Study

M C

Answer —"Incidence' is defined by the Century Dictionary as 'the manner of falling, direction of the line of *fall*" Under incidence of a disease is usually discussed its frequency with relation to age sex, race etc; in other words, it means the direction which the disease may be expected to take, viewing as the objective point those persons who for any reason may be expected to be subject to it.

CAUSE OF EROTIC ABERRATIONS IN THE AGED.

Columbus, Ohio Dec. 12, 1908.

To the Editor:—I am interested in the editorial on the above subject in The Journal, December 12, and the suggestion contained therein *in regard to the possibility of these aberrations* being due to abnormality in involution of sexual organs. It has occurred to me that possibly the cortical portion of the adrenal might have something to do with these conditions in the aged. The cortical portion of this ductless gland has been observed to be hypertrophied in cases of extraordinary sexual development, and to be atrophied when sexual power was low. Often in animals, such as rabbits, used for experimental purposes, the cortex of the adrenal atrophies during pregnancy; and in other animals changes often occur during the mating period. Have we any definite information in regard to the adrenals in these cases of belated sexual overactivity in the aged? E. F. McCampbell.

TECHNIC OF HASTING'S BLOOD STAIN.

Hardin, Mont., Dec. 5, 1908.

To the Editor:—Please give the technic of Hasting's blood stain and references. W. C. Richards.

Answer.—Hasting's stain is a modification of Nocht's stain and consists of a powder, which is dissolved in methyl alcohol. To prepare the powder three solutions are required: A, 1 per cent. aqueous solution of yellow eosin (Grübler); B, freshly prepared polychrome methylene blue solution; and C, 1 per cent. aqueous solution of Ehrlich's rectified methylene blue (Grübler). Solution B is freshly prepared by adding to a warm 1 per cent. solution of dry powdered sodium carbonate 1 per cent. of methylene blue powder. The mixture is heated on a water bath for fifteen minutes; 30 c.c. of water are added for each 100 c.c. of original fluid to replace loss by evaporation. This is heated a second time on the water bath for fifteen minutes; 200 c.c. of this mixture should be prepared for one batch of stain. This warm alkaline methylene blue solution is poured off from the gummy residue and partly neutralized with 5 to 6 c.c. of 12.5 per cent. acetic acid and mixed with solutions A and C as follows: Distilled water 1000 parts, A 100 parts, B 200 parts, C 70 parts. After the addition of C a greenish metallic scum appears on the surface and a fine black precipitate is thrown down. This precipitate may not appear until 80 c.c. of solution C have been added, but the addition of C should be continued until the precipitate is thrown down. The mixture should now be filtered and the residue on the filter should be dried in the air or in a hot-air chamber at a temperature not above 60 C. The dried residue is scraped from the filter, powdered in a mortar and dissolved in pure methyl alcohol; 7/10 to 1 gm. of the powder is usually obtained; 0.25 to 0.3 gm. will saturate 100 c.c. of pure methyl alcohol. In mixing in the mortar considerable pressure should be used to break up the powder. As methyl alcohol is sometimes acid it should be neutralized, if necessary, with sodium carbonate. The solution, when of proper strength, has a purple plum color and after being shaken leaves the sides of the bottle quite clear above the surface of the stain. The stain can be applied to dry films without previous fixation by simply flowing the liquid over the film, taking care to wipe off with the finger any of the stain which collects on the *side of the cover-glass not occupied* by the preparation.

For further directions see the original articles: Nocht: Centralbl. f Bacteriol., 1899, xxvi, 17. Hastings, F. W.: Johns Hopkins Hosp. Bull., April, 1904; Jour. Exper. Med., June, 1905.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

Arizona: Phoenix, Jan. 4-5. Sec., Dr. Ancil Martin.
Arkansas: Little Rock, Jan. 12. Secretaries: Regular, Dr. F. T. Murphy, Brinkley; Homeopathic, Dr. P. C. Williams, Texarkana: Eclectic, Dr. A. J Widener, Little Rock.
Colorado: Denver, Jan. 5. Sec., Dr. S. D. VanMeter, 1723 Tremont St.
District of Columbia: Washington, Jan. 12. Sec., Dr. George C. Ober, 210 B. St., S. E.
Illinois: Coliseum Annex, Chicago, Jan. 18-20. Sec., Dr. J. A. Egan, Springfield.
Minnesota: Old Capitol, St. Paul, Jan. 5. Sec., Dr. W. S. Fullerton, 214 American National Bank Bldg.
New Hampshire: Concord, Dec. 29-30. Regent, Mr. H. C. Morrison.
New Mexico: Santa Fe, Jan. 11. Sec., Dr. J. A. Massie.
North Dakota: Grand Forks, Jan. 5-7. Sec., Dr. H. M. Wheeler.
Oklahoma: Chickasha, Jan. 12. Sec., Dr. Frank P. Davis, Enid.
Rhode Island: 313 State House, Providence, Jan. 7-8. Sec., Dr. Gardner T. Swarts.
South Dakota: Sioux Falls, Jan. 13-14. Sec., Dr. H. E. McNutt, Aberdeen.
Utah: Salt Lake City, Jan. 2. Sec., Dr. R. W. Fisher.
Vermont: Montpelier, Jan. 12-14. Sec., Dr. W. Scott Nay, Underhill.
Washington: Spokane, Jan. 5-7. Sec., Dr. Kenneth Turner, Walker Bldg., Seattle.
Wisconsin: Milwaukee, Jan. 12-14. Sec., Dr. J. V. Stevens, Jefferson.

Medical Education and Nostrums.

The following is the first of a series of letters issued jointly by the Council on Medical Education and the Committee on Medical Teaching of the Council on Pharmacy and Chemistry:

To Medical Teachers:—This letter invites you to cooperate with the Council on Medical Education and with the Council on Pharmacy and Chemistry of the American Medical Association, in the movement to secure better conditions in Materia Medica and Therapeutics.

The progress of all branches of medical science is more or less directly retarded by certain abuses which have crept into to subjects of materia medica and therapeutics. Even the public is rapidly coming to realize our shortcomings in this respect, and the reputation of our profession must inevitably suffer if these branches are not placed on a sounder basis.

The responsibility for this condition can not be laid altogether at the door of the teaching departments which are directly involved. The roots of these abuses are much deeper and more extensive. The entire medical profession must share in the responsibility as well as in the results. Similarly, the reform of these conditions can only be accomplished by the cooperation of the entire medical profession. The responsibility for starting these reforms, however, lies *with the medical educators. Their example, their general influence*, as well as their direct teaching, must give the impetus if this movement for scientific therapeutics is to be successful. The Council on Medical Education has, therefore, undertaken to enlist your personal cooperation. The committee of the Council on Pharmacy and Chemistry will endeavor to keep you informed of its work and aims, and hopes to exchange with you suggestions as to the best methods of making this information effective.

Will you assist in this movement to purify our profession from the blight of the nostrum and similar evils? A thoughtful consideration of the problems, a word now and then, your example, and the full weight of your influence—your active support along these lines need not take up much of your time, but will help to accomplish vast results.

We shall address you further on this subject, and we trust that you will decide to assist in the work.

Marriages

Paul B. Cassidy, M.D., to Miss Frances Joy, both of Philadelphia, November 28.

Eugene H. Pitts, M.D., to Miss Maude Blue, both of Sacramento, Cal., December 9.

Homer Erastus Smith, M.D., to Miss Belle Goodrich, both of Norwich, N. Y., November 30.

Charles Henry Ewing, M.D., to Miss Florence Held, both of Roxborough, Pa., December 16.

J. Paul Keith, M.D., to Miss Myrtle Mae McCool, both of Hopkinsville, Ky., December 9.

Samuel D. Donovan, M.D., Dewey, Ill., to Miss Pearl Hoffman of Lovington, Ill., December 5.

Robert M. Gubbins, M.D., Ceresco, Mich., to Miss Dora Lutz of Marshall, Mich., December 9.

J. Homer Buckley, M.D., Fort Smith, Ark., to Miss London of New York City, December 12.

George William Beach, M.D., Binghamton, N. Y., to Miss Bertha Barnet of Chicago, December 3.

Roy White McClintock, M.D., to Miss Mattie Anna Weber, both of Chicago, November 14.

George Silas Duntley, M.D., to Miss Nola Blanche Seibert, both of Bushnell, Ill., December 2.

Walter Forman Wickes, M.D., to Mrs. Catherine Young Hobart, both of Chicago, December 16.

Margaret C. Woods, M.D., and James R. Stivers, both of Paris, Ky., at Lexington, Ky., recently.

Irvin M. Wertz, M.D., Hagerstown, Md., to Miss Jane Price Gaines, at Baltimore, December 10.

Archibald Olpp, M.D., Jersey City Heights, N. J., to Miss Beatrice Seiple of Philadelphia, November 26.

Frank Staples Bachelder, M.D., to Bertha May Louise Lypps, M.D., both of Pontiac, Mich., December 10.

Max Meitzner, M.D., Philadelphia, to Miss Bertha Eisele of Riverton, N. J., in Jersey City, N. J., December 2.

Edwin B. Miller, M.D., Altoona, Pa., to Miss Mary Weaver of Paradise, Pa., in Philadelphia, November 25.

Lawrence Orr McCalla, M.D., Eatonton, Ga., to Mrs. Bessie Jones Allen of Starr, near Anderson, S. C., December 2.

C. H. Showalter, M.D., Philadelphia, to Miss Lillian Alberta Ingram of Hagerstown, Md., at Camden, N. J., July 4.

Kennie M. Dwight, M.D., Muskogee, Okla., to Miss Florence E. Pierce of Hamilton, Mo., in Kansas City, December 5.

Thomas H. Higgins, M.D., Elizabeth, N. J., to Miss Helen C. Hoagland of Newark, N. J., in Asbury Park, N. J., November 10.

Deaths

John Elliott Russell, M.D. Starling Medical College, Columbus, Ohio, 1882; a member of the American Medical Association; and president of the Knox County Medical Society; for many years a member of the Knox County board of pension examiners; sometime trustee of the Massillon State Hospital and of the new State Hospital for the Criminal Insane now under construction at Lima; local surgeon for the Baltimore and Ohio, and Cleveland, Akron and Columbus railroads at Mt. Vernon; and in 1907 president of the Baltimore and Ohio Railway Surgeons' Association; a member of the National Association of Railway Surgeons; and one of the founders of the Ohio Society for the Prevention of Tuberculosis; died in the Millersburg (Ohio) Hospital, from nephritis, December 8, aged 48.

James Buckner Luckie, M.D. Pennsylvania Medical College, Philadelphia, 1855; a member and once a member of the council of the Medical Society of the State of Alabama; some-time president and censor of the Jefferson County Medical Society; assistant surgeon, medical purveyor, inspector of hospitals, and brigade surgeon in the Confederate service during the Civil War; senator from the twelfth Alabama district in 1880; a councilman and once chief of the fire department of Birmingham, Ala.; died at his home in Birmingham, December 12, from senile debility, aged 75.

William Mackie, M.B., C.M. University of Aberdeen, Scotland, 1879, M.D., 1881; a member of the American and British medical associations; surgeon to the Milwaukee Hospital and the Chicago, Milwaukee and St. Paul Railway; one of the best known surgeons of Milwaukee; once president of the Wisconsin State Medical Society and the Brainard District and Milwaukee medical societies; died suddenly at the home of his son in Milwaukee, December 9, from cerebral hemorrhage, aged 53.

John Lambert Nicholson, M.D. Tulane University, New Orleans, 1898; Harvard Medical School, Boston, 1900; of Nogales, Ariz.; a member of the Arizona Medical Association; from 1900 to 1903 Acting Assistant Surgeon U. S. Army in the Philippine Islands; inspector general of hospitals of the C. R. Y. and P. Railroad; died in the Sisters' Hospital, Tucson, Ariz., July 3, from multiple abscess of the liver, aged 43.

Edward M. Tucker, M.D. Medical School of Maine, Brunswick, 1872; a member of the New Hampshire Medical Society; and a well-known practitioner of Grafton County, N. H.; a veteran of the Civil War, and afterward hospital steward in the Army; for a number of years a member of the local school board, board of health and a justice of the peace of Canaan, N. H.; died at his home in Derry, December 8, aged 68.

Bryan Watkins Whitfield, M.D. University of Pennsylvania, Philadelphia, 1853; of Nauvoo, Ala.; for many years a member of the American Medical Association; sometime historian and councilor of the Medical Association of the State of Alabama; physician and surgeon to the Black Creek Coke Company; died at the home of his daughter in Demopolis, Ala., December 15, aged 80.

Jacob Warren Roop, M.D. University of Pennsylvania, Philadelphia, 1868; a member of the Medical Society of the State of Pennsylvania; president of Dauphin County Medical Society in 1898; for many years director, treasurer and president of the school board of Harrisburg; died at his home in that city, December 8, after a surgical operation, aged 65.

Edgar A. Stewart, M.D. Medical College of Ohio, Cincinnati, 1897; a member of the Ohio State Medical Association and a charter member of the Dayton Academy of Medicine; for two years city physician of Dayton; and for eight years thereafter assistant to the health department; died at his home in Dayton, December 10, from pneumonia, aged 41.

Frank Russell Baker, M.D. College of Physicians and Surgeons, New York City, 1889; a member of the Medical Society of the State of New York and a specialist on diseases of the nose and throat; fell from the window of his home in Williamsburg, December 11, while removing a screen, and was instantly killed, aged 39.

Mosley J. Toney, M.D. Maryland Medical College, Baltimore, 1905; a member of the American Medical Association; formerly of Northfork, W. Va., but later a resident of Aguilar, Colo.; died in the Glockner Sanitarium, Colorado Springs, December 10, from pulmonary hemorrhage, aged 31.

Gillis Stark, M.D. Dartmouth Medical School, Hanover, N. H., 1889; a member of the New Hampshire Medical Society; for two years a member of the board of mayor and aldermen of Manchester, N. H.; died suddenly at his home from cerebral hemorrhage, December 13, aged 43.

Edwin T. Bidwell, M.D. Yale Medical School, New Haven, Conn., 1847; a member of the Connecticut State Medical Society; and for nearly fifty years a practitioner of Deep River, Conn.; died at his home in that place, December 13, from senile debility, aged 87.

William Martin Ogden, M.D. Harvard Medical School, Boston, 1866; once vice-president of the Boston Microscopical Society and professor of general and dental surgery in the Boston Dental College; died at his home in Pasadena, Cal., December 3, aged 67.

Walter George Wilkins, M.D. London; in 1879 assistant superintendent of the New York Hospital; and in 1882 and 1883 superintendent of the Roosevelt Hospital; died at his home in Hammonton, N. J., June 29, from organic heart disease, aged 59.

Robert Wilson Robinson, M.D. Medical College of Virginia, Richmond, 1891; health officer of Danville, Va., for eight years; and visiting surgeon to the Danville General Hospital; died at his home in that city, from heart disease, December 12, aged 39.

Abraham Morrell Cory, M.D. Philadelphia College of Medicine and Surgery, 1857; a surgeon during the Civil War; inventor of the universal solar clock; a genealogist of renown; died at his home in New Providence, N. J., December 16, aged 80.

Levi F. Rinehart (license, Ohio, 1896); a member of the Ohio State Medical Association; for thirty years a practitioner of Perry County, Ohio; died suddenly at his home in New Lexington, December 13, from heart disease, aged 68.

John Harvey Winn, M.D. Starling Medical College, Columbus, 1874; a member of the Ohio State Medical Association; coroner-elect of Gallia County, Ohio; died at his home in Rio Grande, December 5, from malignant disease, aged 59.

Stevenson A. Caldwell, M.D. Northwestern Medical College, St. Joseph, Mo., 1886; of Little Sioux, Iowa; a member of the American Medical Association; died suddenly from cerebral hemorrhage, while making a professional call, December 14.

Tobias Berger, M.D. University of Vienna, Austria, 1890; president of the Eastern Medical Society and a member of the German Medical Society of New York; died at his home in New York City, December 13, from heart disease, aged 44.

Joseph Fleming Perkins, M.D. University of Maryland, Baltimore, 1875; Bellevue Hospital Medical College, New York City, 1879; a specialist in diseases of the throat; died at his home in New York City, December 8, aged 57.

Stewart Robertson, M.D. New York University, New York City, 1884; of Allegheny, Pa.; a member of the American Medical Association; died in the Presbyterian Hospital, Pittsburg, December 8, from pneumonia, aged 55.

Lewis E. Higbee, M.D. Universit [illegible] Ann Arbor, 1875; local surgeon to the C [illegible] Trunk Railroad; died at his home in P [illegible] rom cerebral hemorrhage. December 9, aged 62.

Miner Wadsworth, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1882; a member of the Ohio State

Medical Association; died at his home in Hoytville, December 8, from kidney disease, aged 54.

Samuel M. Crume, M.D. University of Kentucky, Louisville, 1906; formerly of Willisburg, Ky.; a member of the American Medical Association; died suddenly at his home in Tucumcari, N. M., December 8.

Ralph Erwin, M.D. University of Vermont, Burlington, 1861; a surgeon in the Army during the Civil War; fell down stairs at his home in Malone, N. Y., December 9, and was instantly killed, aged 70.

Oscar Kirchgessner, M.D. Michigan College of Medicine and Surgery, Detroit, 1905; of Detroit; assistant to the coroner of Wayne county; died in Denver, Colo., December 8, from tuberculosis, aged 29.

William D. Hopkins, M.D. University of Pennsylvania, Philadelphia, 1850; of Rockingham, Va.; died at the Western State Hospital, Staunton, November 24, from senile gangrene, aged 85.

William A. Tope, M.D. Rush Medical College, Chicago, 1887; of Downers Grove, Ill.; died December 11, in Albuquerque, N. M., where he had gone in the hope of bettering his health, aged 49.

George Franklin Peters, M.D. Northwestern Medical College, St. Joseph, 1893; for a year assistant city physician of St. Joseph, Mo.; died at his home in King City, Mo., December 4, aged 38.

George W. Benton, M.D. Louisville (Ky.) Medical College, 1878; a member of the State Medical Association of Texas; died at his home in Woodbury, December 12, from pneumonia, aged 59.

F. Julius Heintz (license, La.), coroner of St. Tammany Parish for fifteen years, and mayor of Avita Springs ever since its incorporation; died at his home November 20, aged 53.

David M. Provence, M.D. University of Virginia, Charlottesville, 1890; of Rutherford College, N. C.; died near Wilksburg, S. C., November 29, from tuberculosis, aged 40.

Charles Sumner Haines, M.D. University of Vermont, Burlington, 1879; a member of the Medical Society of the State of New York; died at his home in Redford, November 24

Robert J. Caldwell, M.D. Medical College of Georgia, Augusta, 1871; a Confederate veteran; died at his home in Mooresville, N. C., December 7, from pneumonia, aged 68.

John W. Drewry, M.D. Medical College of Virginia, Richmond, 1872; a member of the Medical Society of Virginia; died at his home in Boykins, November 14, aged 57.

John A. Knipple (license, Blair Co., Pa., 1888), formerly of Butlersville, Pa.; died at the home of his daughter in Blue Knob, Pa., November 19, from pneumonia, aged 68.

Eber S. Carlisle, M.D. University of Buffalo, N. Y., 1868; a member of the Medical Society of the State of California; died at his home in Los Angeles, December 8, aged 65.

Andrew J. Wallace, M.D. Starling Medical College, Columbus, Ohio, 1869; of Decatur, Ill.; died in St. Mary's Hospital, East St. Louis, October 6, from nephritis, aged 67.

Henry C. Winger (examination, Pennsylvania, 1896); for more than fifty years a practitioner of Harrisburg, Pa.; died at his home in that city, December 5, aged 72.

Donald Martin Fraser, M.D. McGill University, Montreal, 1869; local surgeon for the Grand Trunk System; died at his home in Stratford, Ont., December 9, aged 62.

Edward C. Prigg, M.D. Physio-Medical College, Cincinnati, 1842; died at his home near Middletown, Ind., April 16, as the result of a fracture of the hip, aged 82.

Michael A. Kadien, M.D. Bellevue Hospital Medical College, 1891; died suddenly from myocarditis at his home in New York City, December 14, aged 49.

Henry J. Patten, M.D. Eclectic Medical Institute, Cincinnati, 1883; died at the home of his daughter in Chicago, December 15, aged 69.

Wiliam C. Hoover, M.D. Vanderbilt University, Nashville, Tenn., 1879; died at his home in Bellbuckle, Tenn., December 10, from paralysis.

F. L. Palardy, M.D. Medical Department of Victoria College, Toronto, 1867; died at his home in Montreal, May 27, aged 62.

Marion Goss, M.D. University of Virginia, Charlottesville, 1870; died at his home in Rockville, Ind., December 13, aged 62.

John Davis, M.D. Medical College of Philadelphia, 1862; died at his home in Pottstown, Pa., December 11, aged 76.

Jerome L. Love, M.D. St. Louis Medical College, 1877; died at his home in Whiting, Kan., December 9, aged 69.

John M. Davis (years of practice, Ill., 1896); died at his home in Hamilton, Ill., December 6, aged 75.

Medicolegal

Waiver of Privilege in One Case Applies to Another.

The Court of Appeals of New York says that the question presented in the criminal prosecution for perjury of People vs. Bloom was whether the defendant, by failing to object to the testimony of certain physicians on the trial of a civil action for damages against a street railway company waived his right to object to their testimony on the trial of the criminal action. The defendant did not cause or procure the evidence of the physicians to be admitted when the civil action was tried, but he made no attempt to prevent its admission, although it was within his power to keep it out, or to avail himself of the privilege conferred by the statute. He did not waive by acting, but by failing to act. Whether his failure to object was owing to advertence, or policy, or to some other reason, did not appear, and was not here material. It was conceded that he waived the benefit of Section 834 of the New York Code of Civil Procedure, so far as the trial of the civil action was concerned, and the real question was, what effect did that waiver have on subsequent trials, civil or criminal?

The court holds that the waiver in the first case applied to the second. It says that the object of the statute, as this court has uniformly held, "is to prevent the disclosure of delicate and confidential matters, which might humiliate the patient in his lifetime and disgrace his memory when dead, so as to enable him to consult a physician in safety, knowing that his lips would be sealed by the law until he himself removed the seal." Section 836, in its present form, expressly refers to "confidential communications, and such facts as would tend to disgrace the memory of the patient."

Whether the waiver is by the affirmative action of the patient in calling forth the privileged testimony, or by his negative action in not preventing the other party from calling it forth, the logical effect is to deprive the statute of all further power of protection, because there is nothing left to protect against. The section no longer applies when the information that the statute would have kept secret, if the patient had so elected, has been made known in a judicial proceeding with his consent.

After intentionally permitting its publication to the world by the patient himeslf, on one trial, it would seem almost grotesque to sustain an objection made on a later trial that the evidence is privileged from disclosure, because it might tend to humiliate or disgrace. There can be no disclosure of that which is already known, for when a secret is out, it is out for all time, and can not be caught again like a bird, and put back in its cage.

The disgrace and humilation were caused by the first trial, not by the second.

The legislature did not intend to continue the privilege when there was no reason for its continuance, and it would simply be an obstruction to public justice.

Monthly Sickness as Evidence of Age.

The Court of Appeals of Kentucky holds, Howerton vs. Commonwealth, where the party appealing had been convicted of carnally knowing a female under the age of 16 years, that it was error to exclude, as incompetent, testimony offered by the defendant tending to show that the monthly sickness of the prosecutrix had regularly occurred and existed for a period of five years preceding his alleged abuse of her. The court thinks it was competent on the question of her age; for, if it continued more than five years before the commission of the crime, it would tend to show that she was over 16 years of age at that time. While by no means convincing, it would, in view of the conflicting evidence as to her age, have been a circumstance to the benefit of which the defendant was entitled, as it was important for him to show that at the time of his having carnal knowledge of her, if the jury believed he did so, the prosecutrix was over 16 years of age, and therefore of sufficient age to consent.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

December 12.

1 *Application of Rest and Exercise in Tuberculosis. F. M. Pottenger. Monrovia, Cal.
2 *Danger in Using Cow's Milk Containing Tubercle Bacilli. J. T. Gorton, Yonkers, N. Y.
3 *Tuberculosis. R. A. Taylor, New York.
4 *Etiology of Dementia Præcox. M. J. Karpas, New York.
5 Sarcoma of the Small Intestines. J. A. McGlinn, Philadelphia.
6 Malarial Fever. J. F. Dunn, New Orleans, La.
7 Correct Treatment of Fracture of the Clavicle. R. Bellantoni, New York.
8 *New Operation for Hemorrhoids. C. W. Heitzmann, Kansas City, Mo.

1. Abstracted in The Journal, Nov. 21, 1908, p. 1813.

2. **Cow's Milk.**—Gorton discusses the milk problem and points out, among other things, the fact that cowdung is contained in almost all milk, and that the greatest danger from the tuberculous cow lies in the infectious character of the manure. He discusses the question of the two types of bacilli and says that there can no longer be any doubt that the bovine type of tubercle bacillus can and does infect man. The great danger of contaminated dairy products is for children, and he believes that few, if any, adults acquire tuberculosis by their ingestion. To rid milk of this menace we must either free our dairies of tuberculosis or so treat all infected milk that the contained tubercle bacilli are destroyed. He discusses both these methods, and holds that the advantages of treating contaminated milk in such a way as to insure the destruction of the bacillus are more than counterbalanced by inherent objections to the method. He particularly discusses pasteurization, pointing out that there is some evidence that it is a cause of rickets and scurvy. While general pasteurization is the easiest way of preventing the presence of live tubercle bacilli in market milk, it is the most slovenly and unbusinesslike method. It is curative when our efforts should be preventive. General pasteurization of milk, whether performed by dealers or municipal bureaus, robs the producer of all incentive to produce clean milk low in bacteria, and puts a premium on filth and disease in milk. Pasteurization of milk used for infant feeding during hot weather is often desirable, but the greatest purpose served by so treating it is the prevention of gastrointestinal disorders, not tuberculosis. Summer pasteurization of milk alone should be countenanced, and this does not protect the infant from the tubercle bacillus except for a small part of the year. General and constant pasteurization of market milk should not be permitted to displace strenuous and proper efforts to rid our dairies of tuberculosis.

3. **Tuberculosis in Tenements.**—Taylor discusses the condition of the tenement dwellers in reference to tuberculosis and suggests that with all other available measures—sanatoria, day camps, etc., there must remain the necessity of doing as much as possible to improve the condition of their squalid quarters, by lessons in sanitation. It is surprising how much can be done in 24 hours under one pretext or another, to transform a dingy corner into a habitat of cheer. It is well known, says the author, that workers in lime escape consumption, or even if it is present it becomes arrested. He therefore recommends whitewashing walls, ceilings and cellars. The family may get a breath of outside air while a sulphur candle kills the germs. The cult of fresh air and scrubbing, etc., can be promoted, and many ways will suggest themselves to a tactful physician, for beneficial yet inoffensive changes. But this is a physician's privilege, not to be shared by any other person, from whom it will be often resented.

4. **Dementia Præcox.**—Karpas concludes the article begun in the preceding issue. He discusses the etiologic relationship of dementia præcox to heredity, autointoxication, seasons, age, nationality, psychotic traits, education, sociologic conditions and occupation, sex, previous diseases, masturbation, civil condition, pregnancy, childbirth, etc., trauma, alcohol, prisons, infectious diseases and operations, and emotional influences. He does not offer any conclusive deductions, but accentuates the fact that heredity and constitutional makeup are important etiologic factors.

8. **Hemorrhoids.**—Heitzmann describes an operation which consists essentially in an incision carried in the long access of the bowel over each hemorrhoid without wounding the blood vessel. The vessels are then exposed and liberated and a small catgut ligature is applied above and below. The vessels are extirpated with scissors or knife, and if necessary the mucous membrane is closed with catgut. The only dressing is a sterile pad over the anus. The operation is not applicable to friable or capillary hemorrhoids or to the so-called connective tissues or cutaneous forms. There is said to be little hemorrhage and little danger of secondary hemorrhage. It is practically painless.

Medical Record, New York.

December 12.

9 *Physiologic Significance of That First Lesson. S. Smith, New York.
10 Statistical Study of Renal Colic and Hepatic Colic. B. Symonds, New York.
11 Ileocolic Circle. B. Robinson, Chicago.
12 *Tuberculosis Problem in the Philippines and the Elimination of Intestinal Parasites as the First Step in Its Solution. V. G. Heiser, Public Health and Marine-Hospital Service.
13 *Neuroses of the Nose. C. P. Grayson, Philadelphia.
14 *Treatment of Amebic Dysentery as Conducted on the Isthmus of Panama. W. E. Deeks, Panama.

9. **The First Lesson.**—Smith describes the mode of education adopted by Dr. Wilbur at the Custodial Asylum for the Feeble-Minded, and discusses the physiologic course of impressions. The cell is the medium of the highest psychic functions. While its intimate texture is inherited, it may be modified by exercise, nutrition and environment. The brain cells may be awakened and developed, and the brain of the feeble-minded class thus educated into intellectuality. The organization of the service of such institutions to individualize study and record, an exhaustive first examination revealing all faults of nutrition and assimilation, family organization of the institution, and special training of the attendants under the personal supervision of the officers, are insisted on. He concludes that there is a far more hopeful outlook nowadays for the feeble-minded, the insane and the criminal. Instead of reasoning backward from the effect to cause and thus reaching a vague and indefinite conclusion, skilled and expert anatomists and physiologists, inspired by the scientific spirit of the age, are gradually penetrating and unveiling the mysteries of the brain, the center and source of all mental activities, thus laying the foundations of a true science of psychology.

12. **Intestinal Parasites and Tuberculosis.**—On the basis of experience in the Philippines, Heiser produces facts which he believes warrant the assertion that in tropical countries where tuberculosis and hookworm diseases are coexistent, the elimination of the hookworm will produce better results in diminishing the mortality from tuberculosis than any measure that has as yet been tried on a large scale. At the same time the general mortality can be markedly reduced.

13. **Neuroses of the Nose.**—Grayson discusses hay fever. He considers the search for a specific foredoomed to failure. Nothing short of a drastic and radical reform of each patient's personal hygiene can effect and maintain the normality of the body tissues and secretions. It is his belief that if a man takes care of his muscles, with all that this implies, his nerves and vasomotor centers will take care of themselves. He next discusses rhinorrhea spasmodica, or paroxysmal sneezing, which

seems to be hay fever minus the latter's idiosyncrasy to external irritants; the internal irritants and the secondary nervous element being doubtless precisely the same in the two cases. He concludes with a discussion of what he terms "honeymoon rhinitis," a neurosis having its origin in disordered sexual functions.

14. **Amebic Dysentery.**—Deeks describes the variety of treatments that have been tried on the Isthmus, which have proved of little or no value. He considers it bad practice to give irritating injections, such as quinin or thymol; opiates are equally bad. The present method, which has given brilliant results with rarely a fatality, consists in what might be called the rest supportive treatment. The patient is put to bed, absolute rest is enjoined, a purely milk diet is administered, and when great tenesmus is present warm saline irrigations are given two or three times daily. A preliminary dose of castor oil is usually advisable. The only internal medication which is given is the subnitrate of bismuth, which is administered in somewhat heroic doses, from a dram to a dram and a half every three hours. In the milder cases improvement begins in from 3 to 5 days; in the severer cases in from 10 to 14 days. The stools then lessen in number and become formed, and in a comparatively short time—from one to three weeks—from 12 to 24 hours are passed without a movement. The diet is then gradually increased and the bismuth lessened in dosage. Usually the proteids, meat and eggs, are the last to be added to the full dietary. In from one to four weeks, depending on the severity of the case, the patients are perfectly well. It is then well to give tonics and advise change of air.

Boston Medical and Surgical Journal.

December 3.

15 *Method of Administering Antimeningitis Serum. C. H. Dunn, Boston.
16 Carcinoma of the Appendix, Probably Primary, in a Child Nine Years and One Month of Age. H. F. Day and L. J. Rhea, Boston.
17 Electrotherapeutics in Tuberculosis. J. F. Wallis, Norristown, Pa.
18 *Certain Evil Tendencies in Medicine and Surgery (continued). M. H. Richardson, Boston.
19 *Bursitis Subacromialis, or Periarthritis of the Shoulder-Joint (Subdeltoid Bursitis.) (Concluded.). E. A. Codman, Boston.

15. **Antimeningitis Serum.**—Dunn, at the suggestion of Flexner, lays great emphasis on the use of the subdural method of injection only, and that in suitable doses at proper intervals. He summarizes as follows the proper method of using antimeningitis serum:

1. Perform lumbar puncture, prepared to give the serum as soon as *meningitis is suspected.* If the fluid is cloudy, give the first full dose of serum at once, without waiting for the bacterial examination, although further doses are only to be given in case the *Diplococcus intracellularis* is found in the cerebrospinal fluid. The serum is of no value in other forms of meningitis.
2. At every dose give as much as possible. Always withdraw as much cerebrospinal fluid as possible. Give 30 c.c. in all cases in which the amount of fluid is withdrawn is 30 c.c. or less, unless a distinctly abnormal sense of resistance is encountered after as much has been injected as has been withdrawn. In all cases *in which the amount of fluid is more than 30 c.c.,* give as much serum as the quantity withdrawn. In very severe or fulminating cases, in which the amount withdrawn is between 30 c.c. and 45 c.c., *give 45 c.c. unless abnormal resistance is* encountered.
3. In very severe or fulminating cases, repeat within 24 hours as soon as the patient begins to get worse again, or *at 12-hour* intervals.
4. In average cases, repeat daily, until four full doses have been given in all cases.
5. If diplococci persist after four full doses have been given, *continue* the injections until they [illegible]
6. If subjective symptoms, any [illegible] ·ntal condition or fever persist after diploc [illegible] *or after* four full *doses have* been given without progressive improvement, wait four days if the condition of the patient is stationary. At the end of four days, or at any time if the patient's condition is getting worse, repeat the treatment with four daily full doses, and continue as if this were the original attack.
7. When a relapse occurs, either by reappearance of diplococci in the cerebrospinal *fluid or by a reappearance* of symptoms, give four daily full doses and continue treatment as if this were the original attack.
8. Treatment along these lines should be *continued until the* patient is symptom-free, without diplococci in the fluid, or until the chronic stage is established.
9. In the chronic stage watch *for* possible reappearance of diplococci by doing occasional lumbar puncture. If diplococci *reappear,* resume treatment with the serum as outlined above. In chronic cases with excessive cerebrospinal fluid under *marked* pressure, try daily lumbar puncture *without* the injection of serum.

18. **Evil Tendencies in Medicine and Surgery.**—Richardson continues his remarks on this subject with a series of instances illustrating points bearing on this matter. In one instance he had at the very operating table to rely on the history to decide on methods of operating, even when the lesion was in full view and in his very finger. He emphasizes the importance of the education of the finger tips as the one thing indispensable to the practitioner, and considers good the tendency backward to the old-fashioned methods of diagnosis. All modern methods should be studied and applied, but not under any glamour or to the neglect of the others. A diagnosis of little cause for operation must be severely questioned when the alternative is a great cause, e. g., the diagnosis of benign mammary tumor must be severely questioned because its alternative is malignant mammary tumor; the same with acute indigestion, whose alternatives include acute appendicitis, perforated gastric ulcer or gallstones.

19. **Bursitis Subacromialis.**—Codman concludes his article as follows:

1. The subacromial bursa and the supraspinatus muscle are of essential value in abduction of the arm.
2. Lesions of the subacromial bursa and of the tendon of the supraspinatus *are the common causes of stiff and painful shoulders.*
3. Many cases which pass under the diagnoses of contusion of the shoulder, neuritis, periarthritis, circumflex paralysis and muscular rheumatism are in reality due to lesions of these structures.
4. The final prognosis of these cases is good, but when pain is severe, or disability is great, relief may be obtained by a simple operation of *little* danger.

Lancet-Clinic, Cincinnati.

December 5.

20 *Etiology and Pathogenesis of Pancreatitis. W. D. Haggard, Nashville.
21 *Physiology and Chemical Pathology of the Pancreas in Pancreatitis. J. H. Schroeder, Cincinnati.
22 *Diagnosis of Pancreatitis. A. J. Ochsner, Chicago.
23 *Pancreatic Diabetes and Its Relation to Gallstones. A. C. Croftan, Chicago.
24 *Surgical Treatment of Pancreatitis. W. J. Mayo, Rochester, Minn.

20 to 24. Abstracted in THE JOURNAL, Nov. 14, 1908, p. 1724.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

November 28.

1. *Inaugural Symptoms. B. G. A. Moynihan.
2 *Rheumatic Origin of Certain Serous Inflammations. E. Smith.
3 Abdominal Auscultation as an Aid in Diagnosis. A. F. Hertz.
4 Bismuth Poisoning. A. Don.
5 Lactic Acid Bacteria. R. W. Allen.
6 A Case of Tuberculous Peritonitis. O. Elgood.
7 Case of Abdominal, Pelvic, and Labial Tumor. J. A. C. Macewen.
8 Three Cases of Trophic Lesions Occurring Symmetrically on the Extremities. W. S. Sheppard.
9 Etiology of Beriberi and the Presence of Arsin in Rice. C. N. Saldanha.

1. **Inaugural Symptoms.**—Moynihan points out that the classical descriptions of the pathology of disease are mainly built on those later clinical symptoms that could be subsequently correlated with postmortem appearances. At present, the surgeon, owing to the frequency of internal operations, has the opportunity of studying, not only those parts that call for operative intervention, but all other parts laid bare through the same incision. If a morbid process in its *earliest stage be found* in other parts, the patient's story of his sufferings may be retold and cross examination conducted thereon as soon as recovery from the operation is complete. In this way much of the text-book *symptomatology* can be revised. Moynihan insists on the importance of the "anamnesis," which word, he holds, should come into more general adoption, being strictly limited in *meaning to* its proper sense, namely, the calling again to *mind* of incidents in the past, the recollection of occurrences, almost or *entirely* forgotten until thought is concentrated on them. The study of inaugural symptoms will be of the greatest service in abdominal diseases. With regard to gastric or duodenal ulcer, Moynihan says that the sudden onset of an acute *intolerable* pain that does not abate, rigidity of all the abdominal muscles, light and shallow breathing, with an inspiratory *phase* that often ends abruptly in a "catch," together with the intensely anxious expression which the face always wears, are *ample*

warrant for a diagnosis of a perforation. A previous history of indigestion is rarely if ever lacking. A rapid pulse, vomiting, and abdominal distension are to be looked for among the inaugural symptoms. He discusses also the inaugural symptoms of gallstone disease and of carcinoma of the stomach. In cancer of the large intestine the first sign, he thinks, is the insidious onset of intestinal irregularity, now slight constipation, now slight diarrhea. Another point is a slight transient spasm in a part of the large intestine. The patient tells of a feeling of "gripping" in a certain limited area of the abdomen and points always to the same spot. Borborygmi are heard synchronizing with the spasmodic pain. In regard to appendicitis, he has verified the point emphasized by Murphy, that pain is the inaugural symptom and that if other symptoms apear first the diagnosis must be regarded with suspicion. Of the association of pancreatitis with gallstone, he thinks the better view may be that both gallstones and pancreatitis are themselves the result of an infection of the bile as it descends from the liver. He discusses the relation of diabetes to the pancreas, and in conclusion points out that it is to the cooperation of the general practitioner with the surgeon that help in this research must be looked for.

2. **Rheumatic Serous Inflammation.**—Smith points out that the rheumatic origin of serous inflammation of the pericardium is generally admitted; yet a similar source for other serous inflammations is less willingly conceded. He briefly reports two cases; the first, of a localized peritonitis, in which the illness had in all respects the features of an ordinary attack of inflammation of the appendix. The inflammation very rapidly subsided under sodium salicylate. He believes rheumatic appendicitis to be a common complaint. The second case was one of general peritonitis of most virulent character, the patient being considered moribund. Yet the disease changed its whole character within twenty-four hours after the administration of sodium salicylate every three hours, and at the end of forty-eight hours the patient was out of danger. Smith considers it advisable in all cases of appendicitis to begin treatment with a few substantial doses of sodium salicylate, for the rheumatic element can not be excluded until the result of treatment by this remedy has been ascertained.

Lancet, London.

November 28.

10 *Pathology and Treatment of Diabetes Mellitus Viewed By the Light of Present Day Knowledge. F. W. Pavy.
11 *"Effective Periods" of Typhoid Bacilli Carriers. D. S. Davies and I. W. Hall.
12 The Common Cold: Its Pathology and Treatment. R. W. Allen.
13 Case of Lichen Plano-Pilaris in Which the Spinous Element Predominated. A. F. Savill.
14 Sterilization of Potable Waters by Calcium Hypochlorite. J. C. Thresh.

10. **Diabetes.**—Pavy's considerations lead to the view that the products of digestion become assimilated at the seat of absorption. By this assimilation they become rebuilt, before reaching the circulation, into molecules of sufficient size to be precluded from flowing off with the urine in their passage through the kidney, in contradistinction to what is known to occur with the digestion products themselves when circumstances exist to lead to their demonstrable presence in the blood. All experimental work affords testimony of sugar standing in the same position as salines and urea in relation to the property of passing off with the urine. Impermeability of the kidney to sugar is, as he has before stated, a pure fiction raised on the false conception of healthy urine being free from sugar. The real circumstances are that the urine constitutes an indicator of the state of the blood with respect to sugar, no matter whether the amount existing be large or small, and thence it may be concluded that if sugar were reaching the circulation, as is contended for under the glycogenic theory, it could not escape being rendered evident by the urine, just as indeed happens in connection with diabetes.

11. **Typhoid Bacilli Carriers.**—Davies and Hall examine two of their typhoid carriers and the summaries of the cases reported elsewhere. The points shown by their studies are that every carrier appears to have periods of maximum and minimum danger, and that a knowledge of these should be of great value in prophylaxis. It is noted that there is an almost uniform absence of "effectiveness" of the carrier during the early months of the year. The authors suggest the following studies with reference to the period of ineffectivity. Is this periodical failure of the carrier to become "effective" simply coincidence, or shall we find it appearing uniformly when a large number of cases are available for reference? Has it anything to do with periodicity in the virulence of the bacillus? Does the organism live a "hibernant" existence in the intrahepatic and extrahepatic biliary passages during these months, and become actively parasitic on reawakening for the remaining months of the year? Has this "period of effectiveness" anything to do with the type of food taken, or with the general tissue metabolism, or with the heat regulation apparatus? Does this "seasonal effectivity" offer any explanation of the "waves" of endemic enteric fever, the May revival starting the supply of fresh infections, which subsequently develop by extension into the autumnal burst? There are certain indications which might be followed until more knowledge points to other pathways:

1. *Systematic examination of the feces of convalescents or suspected carriers.*—These examinations must be made day by day and extend over long periods.
2. *Urine.*—The marked excretion of the typhoid bacilli during the later weeks of the acute attack does not appear to have its parallel in the carrier.
3. *Blood.*—The agglutinating properties of the blood may afford evidence of the "effectiveness" of the carrier.
4. *Temperature and pulse.*
5. *Hands.*—It may be worth while to make bacteriologic examination of the nails and fingers.
6. *Immunity.*—Determinations of immunity can only be carried out in bacteriologic laboratories, but it may be necessary to resort to them in some instances. Speaking generally, the immunity of the typhoid carrier must vary considerably from time to time. It lies near to hand to think of raising the immunity of the carrier by injections of vaccines.

Obstétrique, Paris.

I, N. S., No. 4, pp. 353-416.

16*Elongation of Cervix Complicating Delivery. (De l'allongement œdémateux, polypiforme, unilabial du col complication de l'accouchement.) J. Rouvier.

No. 5, pp. 417-560.

17 *Treatment of Puerperal Infection by Fixation Abscesses. A. Boissard.
18 *Indications and Prognosis of Pubiotomy. (Hebotomie.) C. Jeannin and V. Cathala.
19 *Treatment of Tubal Pregnancy After Rupture or Abortion. (Grossesse extra-utérine.) H. Treub.

16. **Elongation of the Cervix Complicating Delivery.**—Rouvier has found in the literature twenty cases, in addition to one personally observed, in which the cervix became elongated in the form of a polyp, and interfered with delivery. In all but one of the cases on record the anterior lip was the seat of the lesion. It is the result of some intense mechanical disturbance in the local circulation and may subside after childbirth. The elongation may be mistaken for a cystocele or rectocele or a vascular or fibrous polyp or other tumor, and thrombosis or a hematoma may be a serious complication. Spontaneous subsidence of the tumor during labor is the exception, and expectant treatment is justified only in the mildest forms and in the early stage. After rupture of the fetal membranes, the evacuation of the uterus should be accelerated and the swollen lip pushed back. Gentle compression may aid in the absorption of the fluid content. Scarifications may open a way to infection, but they might be useful in some cases. Extreme care is necessary if forceps are used.

17. **Treatment of Puerperal Infection by Fixation Abscesses.**—Boissard says that the decline of serotherapy in puerperal infection is bringing the Fochier fixation abscesses into vogue again. He has had favorable experience with them, and urges their more general adoption in puerperal infection if the toxic phenomena do not rapidly wane, but are becoming accentuated, rebellious to ordinary measures. No one will ever regret having made them too early in these circumstances. He takes up a fold of the skin on the thigh or side of the chest, inserts the needle into the subcutaneous tissue, and injects at least 3 c.c., preferably 4 or 5, of oil of turpentine. One of his patients received by mistake 20 c.c., and the local reaction was intense; the entire limb swelled, but there were no complications and the patient recovered. There are no general phenomena after the injection of turpentine; the only reaction is the pain at the point of injection. By the second day the abscess begins

to show and it reaches its full development by the sixth day and can be incised on the seventh or eighth. After the pocket is empty it is rinsed out with peroxid of hydrogen or boiled water. Thirteen cases are described, all of extremely severe puerperal infection, and the results observed were far better than with any other mode of treatment in his experience.

18. **Prognosis and Indications for Pubiotomy.**—Jeannin and Cathala have performed pubiotomy in 3 cases and review the whole field of these operations to date in 21 clinics. The maternal mortality ranges from zero to 11 per cent., and averages about 6 per cent., although the fatal outcome in some of these cases should not be attributed to the operation. They compare the outcome of pubiotomy, symphyseotomy and conservative Cesarean section, tabulating 39 cases of the latter, with only one fatality, and this the result of a burn. They regard pubiotomy as much more satisfactory than symphyseotomy, and prefer the open to the subcutaneous technic for pubiotomy. With full dilatation and normal conditions, Cesarean section is preferable, but in case of signs of infection pubiotomy with drainage is preferable.

19. **Treatment of Tubal Pregnancy After Rupture or Abortion.**—Treub has been collecting statistics in regard to operative treatment of tubal abortion in Holland, and has collected 331 cases with a total mortality of 12.6 per cent. In 10 cases the women succumbed in less than two hours; there were only 5 cases in which death occurred from a second hemorrhage. These figures include 170 severe cases. In 29 the operation was done within 48 hours, and 31 per cent. of the patients died. Among the 141 women treated by a deferred operation, the mortality was only 9.25 per cent. In 2 of the fatal cases the operation was done in the 24 hours following the rupture. Taking into consideration the fact that death rarely occurs within 24 hours, he thinks that the rapid operation was probably responsible for the fatal outcome. He then describes his personal experience, which includes 151 cases. In 27 the condition was serious, and there was one death from repeated hemorrhage. Among the others he regarded laparotomy as indicated in only 2 cases and this not until after recurring hemorrhage. In 20 cases he evacuated the hematocele through the vagina, and 4 of the women recovered without any operation. Among the 124 other cases, which he classifies as not serious, a secondary operation was performed in all but 24. Laparotomy was done in only 16 cases, and one of the women succumbed to peritonitis from lack of trained nursing. In 2 cases the laparotomy was required for ileus: a loop of the intestine had become adherent to the walls of the hematocele. The operation saved only one of these women. In 7 other cases the laparotomy was indicated by the uncertainty in the diagnosis, and once to arrest hemorrhage not amenable to control by the vaginal incision. The other 84 women were all treated by secondary colpotomy, and all recovered except one with pre-existing peritonitis. His total mortality was thus 2.6 per cent. of the 151 cases. He adds in conclusion that whoever originated the term, "the flooding of the peritoneum from the tubal rupture," must have a number of superfluous operations and operative fatalities on his conscience. The hematocele forms only gradually; the vague but suggestive term, "flooding the peritoneum," is harmful in two ways: It is a scarecrow for those who are not surgeons, and an excuse for the operators. The truth is that the rupture of the extrauterine sac only exceptionally proves fatal at once. These exceptional cases are those in which the alarming symptoms increase during several hours, notwithstanding suitable treatment, and those in which the hemorrhage recurs in a serious form. These extremely rare cases alone justify primary and rapid intervention. In all other cases treatment should be negative. No attempt should be made to obtain a detailed diagnosis, no examination by the vagina to see if there is a hematocele; it does not form until later, and manipulations do no good, but may increase the chances for hemorrhage. Absolute repose, ice to the abdomen, an opiate when the shock is over: this is all for the first days. Then, instead of the ice pack, warm fomentations to the abdomen, supplemented a few days later by hot vaginal douches. This treatment should be kept up for four or five weeks unless signs of suppuration in the hematocele indicate a secondary operation. If the reabsorption of the blood drags too long, colpotomy may be done after five or six weeks; it is then simple and harmless.

Presse Médicale, Paris.

Nov. 21, XVI, No. 94, pp. 753-760.

20 Direct Inguinal Hernia. E. Forgue.
21 Mixed Tumors of the Lip. (Le "conjonctivome" pur.) M. Letulle.
22 *Secondary Cancer Septicemia. Le Noir and Courcoux.

22. **Secondary Cancer Septicemia.**—Le Noir describes a case in which a young man entered the hospital on account of general debility with intense anemia and pain in the lumbar region. Three years before he had had right hemiplegia with aphasia, all subsiding in the course of a year. During the last six months pain in the right flank, spreading to the lumbar region, was accompanied by intense anemia. Autopsy revealed an unsuspected cancer at the pylorus. No embolism could be detected in the primary tumor, but an adjoining gland was evidently the source of the rapidly fatal septicemia. The embolism followed the ramifications of the portal vein.

Semaine Médicale, Paris.

Nov. 25, XXVIII, No. 48, pp. 565-576.

23 *New Sign of Functional Paresis of the Extremities. (Valeur du phénomène de "l'opposition complémentaire" comme moyen de diagnostic entre les hémiplégies organiques et les hémiplégies fonctionnelles.) J. Lhermitte.

23. **New Sign of Functional Paresis of the Lower Extremities.**—The sign described by C. F. Hoover in The Journal, Aug. 29, 1908, page 747, has been tested by Lhermitte in 14 cases of organic hemiplegia at the Salpêtrière, the findings confirming Hoover's assertions in regard to the diagnostic importance of the "complemental opposition" in genuine paresis of the lower extremity: The heel of the other foot digs into the couch as the leg is voluntarily lifted. In another case reported by Lhermitte in which the symptoms all point strongly to hysteria, the complemental opposition is as marked as in a case of genuine organic hemiplegia. The patient is a young married woman from the rural districts, never in contact with hysterics and without pathologic antecedents. Sudden pain in the left hand was the first symptom, followed by the gradual development of multiple contractures with reflex atrophy of the quadriceps. The Hoover sign is particularly pronounced in this puzzling case. In another case a woman of 54 presented typical major attacks of hysteria. During hypnotic sleep Lhermitte induced by suggestion complete right hemiplegia. Lying on a couch in the dorsal position the patient could easily lift the left leg, but all movement of the right leg was impossible, although traces of the complemental opposition could be felt in the muscles of the paralyzed leg as the left was lifted. But when the paralyzed leg was lifted there was not a trace of the complemental opposition in the other leg. The absence of the complemental opposition in this case harmonizes with the assumption of the functional nature of hysteric hemiplegia. It further confirms Babinski's statements in regard to the identity of hysteric paralysis and the paralysis experimentally produced in persons influenced by suggestion in hypnosis. The sign thus not only serves to differentiate malingering and functional paresis, but it also throws light on the mechanism of hysteric paralyses. The fact that the muscular effort and contraction of the complemental opposition can be distinctly perceived by the hand, placed under the heel, even when the limb is utterly incapable of volitional movements, shows, he thinks, that the subconscious movements are retained unimpaired in hysteria, while the movements which depend directly on the will are suspended. The mechanism of hysteric paralysis is thus seen to be of an entirely different nature from that of organic paralysis. The hysteric paralysis is not the consequence of a functional disorder limited to a given anatomic system, but is evidently the result of disturbance in the psychic functions, an essentially mental process. Lhermitte explains the sign as due to the natural subconscious effort to maintain static symmetry in the pelvis as the leg is lifted. The digging of the other heel into the couch does not help to lift the leg, but it helps to maintain this static balance.

GENERAL INDEX

All *reading matter* in The Journal from July to December, 1908, inclusive, is indexed here (For Current Medical Literature Index see pages 2271 to 2320) "Deaths" "Book Notices" and "Society Proceedings" are indexed under those titles at the ends of the letters "D," "B" and "S" Matter pertaining to the Association is under "American Medical Association" With the above exceptions, all matter is indexed under the most important word of the heading that was used in The Journal, and also under the subject heading For instance, abscess of brain will be found indexed under "abscess" as well as under "brain" Such titles as "ocular manifestations, etc," have been indexed under "eye" Cross references have been made wherever this was possible It is also well to remember that, in looking up a certain subject, related words should be consulted, for example, testes, testicle, skull, cranium, bowel, intestines The letters used to explain in which department the matter indexed appeared are as follows "E" editorial, "O" original article, "C" correspondence, and "ab" denotes an abstract of an article that has appeared in full elsewhere *Names of authors* of original articles appearing in The Journal are not given in this index, but are included in the Index of Authors.

A

Abbott Alkaloidal Company, reply to appeal for square deal, 1710
Abdomen and thorax access to wounds involving, 1285—ab
  and thorax, inter relations of diseases of, 444—ab
  and thorax, penetrating wounds of, 625—ab
  and trunk, body elevator and support for operations on, 126—O
  foreign bodies in 1035—ab
  gunshot wounds of, 1277—ab
  inflammatory conditions of, 441—ab
  massage of, contraindications for, 332—ab
  postoperative gas distention of, 1904—ab
  pressure conditions within, 1033—ab
  to avoid leaving sponge in, 1355—ab
  upper, diseases of indications for immediate operation, 1642—ab
  vaginal, vertical abdominal and Pfannenstiel incisions of 912—O
Abdominal and pelvic operations, plea for drainage in, 2004—ab
  cancers, secondary implanted, 356—ab
  colic, 2100—ab
  complications of typhoid from surgical standpoint, 2182—ab
  diagnosis as tested by operation, 624—ab
  disorders, acute, especially appendicitis cutaneous tenderness in, 795—ab
  hysterectomy, for rupture of the uterus, 2094—ab
  operation radical, for carcinoma of cervix uteri, 1554—ab
  operations, remote pain following, 700—ab 1187—ab
  organs sensibility of, 87—ab
  pain diagnostic significance of, 625—ab 1037—ab
  Section See Laparotomy
  symptoms of thoracic tumors, 2080—ab
Aberrations erotic, cause of, in aged, 2064—E, 2230
Ablatio placentæ, 1845—O
Abnormalities, human, inheritance of, 267—ab
Abortion and poisoning by yew, 1741—ab
  cases dying declarations in, 1638—ab
  cause of, 1817—ab
  criminal, 957—O 1346
  criminal, and race suicide, moral aspects of, 1819—ab
  criminal, revocation of license for, 788
  curette and treatment of, 1117—ab
  missed 1117—ab
Abscess appendix, treatment of, 870—ab
  between iliopsoas and head of femur, 2191—ab
  cerebral, 667—O
  cerebral, and pyonephrosis, 756—O
  cold retromammary, 629—ab
  in zygomatic fossa 946—ab
  intrapelvic, abdominal celiotomy and colpotomy for, 1354—ab
  liver, amebic, as easily preventable disease and postoperative sepsis as important lethal factor, 1821—ab
  liver dysentery with intestinal amebas but without, 1820—ab
  liver tropical is dysentery sole cause of? 1821—ab
  liver, tropical, prevention of, 349—ab
  of Gartner's canal, 1457—ab
  of nasal sputum, probably due to anthrax infection, 1097—O
Abscess of uterus, hysterectomy, recovery, 127—O
  pelvic, due to appendicitis, rectal drainage in 711—ab
  pelvic, treatment, 169—ab, 1825—ab
  perinephritic, stone, and tuberculosis of kidney, 353—ab
  perityphlitic, necessity for appendicectomy after, 535—ab
  subphrenic, 1825—ab, 2008—ab
  suburethral, in women 797—ab
  tropical or amebic, of liver as preventable disease, 1907—ab
  tuberculous, treatment of, 76—ab, 709—ab
Abscesses and sinuses tuberculous, prevention, diagnosis and surgical treatment, 1540—ab
  brain, diagnosis of, 632—ab
  fixation, in puerperal infection, 2235—ab
  spondylitic, in posterior mediastinum, 1114—ab
  traumatic, of anterior mediastinum, 1114—ab
  unoperated appendiceal, intestinal tears following, and medicolegal relations, 624—ab
Absorption, capacity for, of mucosa of vagina and uterus, 2193—ab
Abuse of the tablet, 2228
Accident lung affections following, 84—ab
Accidents, electric, 1383—ab 2100—ab
  Fourth of July, 49—E 848—E
  hysterical and neurasthenic conditions following 1806—ab
  industrial, and physicians, 1437
  industrial, insurance against, 58—ab
  mine 1431—E
Accouchement forcé, 533—ab
Acetonemia, periodic, in children, 716—ab
  periodic, in children, blood findings in 1289—ab
Achylia gastrica 440—ab
  chronic pathogenesis and etiology of 1826—ab
  diarrhea from, in children, 2099—ab
Acid arsenious, in epithelial cancer, 1990
  formic, derivatives of, in cancer, 1466—ab
  hydrochloric, diagnostic value of, perverted secretion of, by mucous membrane of stomach 1638—ab
  hydrochloric, secretion of and use in therapeutics, 2197—ab
  Intoxication See Acidosis
  intoxication, 170—ab
  intoxication, fatty, 1736—ab
  nitric, inhalation of fumes of, in chronic bronchitis 1475—ab
  nitrous, nitrates and aqua regia in determination of mineral constituents of urine, 1278—ab
  pyroligneous danger of, 1561—ab
  salicylic 318
  sulphanilic, 2219
  thymic, identity of, 692
  trichloracetic, 916—O
Acidosis See also Acid Intoxication
  diabetic, underlying chemical principles of, 74—ab
  in pregnancy, 57—ab
Aconite and belladonna, physiologic antagonism between 951—ab
Acromegaly and hypophysis 1557—ab
  and hypophysis tumors in, 878—ab
  hypophysis glycosuria and diabetes mellitus in, 1897—ab
  pain in, and osseous plaques of pia arachnoid, 1376—ab
Actinomycosis 342—ab
  cervicofacial type 1551—ab
  of ribs and vertebræ, 344—ab
Adam Stokes' disease clinical and pathologic study of, 2002—ab
Adams Stokes disease with induration in bundle of His, 630—ab
  syndrome, 2093—ab
  syndrome and disturbance in conduction of impulse, 1011—ab
  syndrome, retrogression of, 1041—ab
  syndrome, syphilitic, 1475—ab
Adenitis neutral potassium oxalate in, 2099—ab
  primary cervical, tubercle bacilli from, 1362—ab
Adenoid and tonsil operation status lymphaticus, and anesthesia in, 1185—ab
  vegetations and inability to concentrate attention, 450—ab
Adenoids, 2003—ab
  and impaired hearing, responsibility of physician for future of child with, 1374—ab
  and tonsils diseased, pathology and treatment of, 352—ab
  inflammation of, types of pneumonia with, 1276—ab
  safe and rapid method of removing, 1184—ab
Adenomata, two, of islands of Langerhans 1075—O
Adenopathy bronchial, vertebral auscultation in, 709—ab
Adhesions intra abdominal, 2090—ab
  intraperitoneal, sterile oil to prevent, 353—ab
  peritoneal prevention of, 1256—ab
  pleural, in sudden death asphyxia, and severe injuries, 1897—ab
Adipose genital degeneration removal of hypophysis for 877—ab
Adiposis dolorosa, 439—ab 1901—ab
Adnephrin solution, sulphite in report of the Council on Pharmacy and Chemistry on, 1524
Adnexa See also Ovaries and Fallopian Tubes
  bilateral diseased removal of, by transverse fundal excision, 956—ab
  conservative surgery of, 786—ab, 1465—ab
  inflammatory affections of, operative treatment of 1287—ab
Adrenal Gland, Adrenals See Suprarenals
  system and kidneys, 875—ab
Adrenalin and active principle of pituitary gland, diuretic action of, 1849—O
  and lymphagogs, antagonistic action of, 539—ab
  and saline infusion, intravenous, efficacy of, 266—ab
  specific reaction of, 1474—ab
  therapeutic action of, applied to skin 1908—ab
Adrin, 1235
Adults and children defensive arrangements of body, 1284—ab
Advertising, clean, a sign of times, 45—E
  clean, and southern medical journals 679—E
  fraudulent piano dealers and, 932
  honesty in, 922—E
  medical 250—ab
  objectionable, Massachusetts forbids 618
Africa, Sanitation in, 2182—ab
Age and incipient cataract, with normal and pathologic blood pressure 400—O
  and weight in fetus, 919—O
  at first menstruation and development of pelvis, 2192—ab
  chronologic and anatomic, in early life 1197—O
  menstruation as evidence of, 2232
  old 1734—ab
  old, from forensic standpoint, 1560—ab
Age, old, gastric secretion in, 349—ab
Aged, cause of erotic aberrations in, 2064—E, 2230
Agglutination test, simple typhoid, 1374—ab
  test, value of, and of bacteriologic methods in diagnosis of glanders, 2003—ab
Airesol, Lloyd's, Report of Council on Pharmacy and Chemistry on, 1794, 1986
Air, change of, in adult life, 444—ab
  fresh, and nutrition, adjuvants to, in laryngeal and pulmonary tuberculosis, 1465—ab
  fresh, in therapeutics, 157—ab
  fresh, with hyperemia in bone tuberculosis in adults, 1540—ab
  hot in acute inflammation, 1827—ab
  infection of minor importance, 2048—O
  insufflation of, in pleural effusion, 1380—ab
  liquid, resistance of embryonic epithelioma transplantable mouse cancer, and certain organisms, to freezing with, 2003—ab
  passages, upper, and digestive tract, *infection by, 1651—ab*
  superheated, in gonorrheal joint affections 447—ab
Alabama medical news, 1876
Albumin, foreign, and atoxyl, influencing of malignant tumors by, 797—ab
  in urine, instrument for estimation of, 1511—O
  in urine, quantitative estimation of, 38—O, 333—ab, 2055—O
Albuminoids, endobacillary, and serum treatment of tuberculosis, 1740—ab
Albuminuria, alimentary, diagnosis and significance of, 2186—ab
  in parathyroid insufficiency, 450—ab
  intermittent, of childhood and hereditary tuberculosis, 1368—ab
  orthotic and tuberculosis, 349—ab
  pregnancy and eclampsia, parathyroid treatment of, 1651—ab
Alcaptonuria and ochronosis, 448—ab
Alcohol abuse of, in treatment of children's diseases, 622—ab
  effects of, on liver, 514—ab
  in armies, 762—E
  influence of, in services, 871—ab
  injection of, for trigeminal neuralgia, 1276—ab
  maximal dose of, 1382—ab
  percentage of, that may be used in medicinal preparations, 1637—ab
  problem medical side of, 1625—ab
  psychoses due to, 1638—ab
Alcoholics, Anstie's rule for, 692
Algeria and Tunis, plague in, in 1907, 1469—ab
Alienist and expert testimony, 530—ab
Alimentary canal See Gastrointestinal
Alkali human and cow's milk and infant nutrition, 1033—ab
Alleotone, 1347
Alpha Medical Institute, 2228
Alopecia, venous hyperemia in, 1389—ab
Altitude, high, blood pressure at, in tuberculosis 944—ab
Altitudes high, physiologic effects of residence in, on tuberculosis 1255—ab
Alveolitis or some pathologic condition arising from inefficient care of the mouth, 2113—O
Amaurosis in pregnancy, 177—ab
Amblyopia little known type of, in children, 627—ab

Amebas, in feces, 1108—ab
  in intestine of man, 256—ab
  intestinal, dysentery with, but without hepatic abscess, 1820—ab
Amebiasis, 1375—ab
  intestinal, 1820—ab
Amenorrhea and dysmenorrhea, cured by tuberculin treatment, 2012—ab
America and Great Britain, rabies in, 1428—E
  Prof Martin's impressions of, 2181—ab
  teaching of neurology in, 1—O
American Medical Association, date of next session, 150
  honorary members, 518
  new members, 150, 518, 934, 1251, 1717, 2076
  standards of medical education, 584
  standing of special committees, 1526
American medical administration in Panama through British eyes, 43—E
  Surgical Association, early days of, 259—ab
Ammonia coefficient in urine, 777—ab
  Folin method for estimating quantity of, in urine, 692, 860
  toilet, 319—ab
Ammonium hypophosphite, 2218
  Gardner's syrup of, 2218
Amphibians, young, effect of x-ray on, 516—ab
Ampulla of Vater, and common bile duct, melanotic sarcoma of, 260—ab
Amputation in diabetic gangrene, 789—ab
  of rectum and anus, bloodless, 991—O
  stump, old, plastic resection to restore function to, 1909—ab
Amyl nitrate in pulmonary hemorrhage, 869—ab
Analgesia, nasal, as prognostic symptom in dry catarrhal deafness, 750—O
Analysis, chemical, for water and sewage, work of committee on standard methods of, 942—ab
Anaphylaxis, 1603—E
  chemistry of, 2003—ab
  definition of, 1799
  in diagnosis, 2238—ab
  induced by bacterial proteins, 836—O
  serum disease as clinical manifestation of, 709—ab
  to horse serum, 1184—ab
Anasarca from retention of urine, 1743—ab
Anastomosis, end-to-end, and resection of oviduct in hen, without loss of function, 1108—ab
  facio hypoglossal, 455—O
  intestinal, 546—O
  intestinal, with rubber sutures, 359—ab
  uretero-vesical, 1321—O
  vessel, by rubber tubing, 1550—ab
  vessel, four flap method of, 675—ab
Anatomy and pathology of hernial sac, 1111—ab
  applied, of tonsil, 1277—ab
  modern, teaching of, 1443—ab
  pathology and therapy of chronic endometritis, 2193—ab
  surgical, of biliary ducts, 1286—ab
  what is practical examination in, 1818—ab
Anemia and fibromyomata of uterus, 1395—O
  cerebral and ocular complications of, and thrombosis, 1378—ab
  in young children, 1912—ab
  of hepatic cirrhosis simulating pernicious type, 1143—O
  pernicious, 174—ab, 1825—ab, 1912—ab, 2010—ab
  pernicious, and digestive tract, 534—ab
  pernicious, blood in, 627—ab, 952—ab
  pernicious, cholesterin in, 2154—O, 2177
  pernicious, etiology and treatment of, 1824—ab
  pernicious, in pregnancy, 69—ab, 623—ab
  pernicious, milk vegetable diet in, 1744—ab
  pernicious, recurring, 2094—ab
  pernicious, remissions in, 393—O
  pernicious, treatment of, 1786—E
  severe, presenting blood findings of pernicious type, recovery, 1973—O
  splenic, splenectomy, and recovery, 866—ab
  temporary, resuscitation of glands and muscles after, 350—ab
Anesthesia, *chloroform*, 785—ab, 1578—O
  chloroform, acute toxemia after, 785—ab
  chloroform, towel method of, 1043—ab
  Commission of American Medical Association 1572—O
  ether, administration methods, 1574 O
  general, adaptation of boiling point of anesthetic to temperature of body, 789—ab
  general, advantages of, with part of circulation cut off; autotransfusion, 1826—ab
  general, and lecithin, 1117—ab
  general, atropin sulphate in, 1140
  general, ethyl chlorid for, 173—ab
  general, in oronasal surgery, 438 ab
  in dental and major surgery, 907—O
  in 16th century, 764—ab
  in tonsil and adenoid operation and status lymphaticus, 1185—ab
  local, 537—ab, 1582—O
  local, prostatectomy under, 84—ab
  local, removal of tonsils under, 1185—ab
  nitrous oxid, 1576—O
  of limb by venous transfusion after expulsion of blood, 1040—ab
  position of head in, 128—ab
  quinin, painless tonsillectomy and adenectomy with, 496—O
  regional by spinal technic, 2156—ab
  scopolamin morphin, 714—ab
  scopolamin-morphin and chloroform, 1377—ab, 1468—ab
  scopolamin morphin, in gynecology, 267—ab
  scopolamin-morphin, in obstetrics, 1827—ab
  special methods of, 1584—O
  spinal, 450—ab, 2196—ab
  spinal and Cesarean section, 176—ab
  spinal, by-effects and after effects, 797—ab
  spinal, gum arabic in, 540—ab
  spinal, in gynecology, 716—ab
  spinal, stovain, 1287—ab
  spinal stovain, deaths after, 1190—ab
  spinal, technic for, at Bier's clinic, 2196—ab
  stovain, modifications in nervous system after, 955—ab
  surgical, blood changes incident to, 1586—O
  surgical, introduction of, 1815—ab
Anesthetic, boiling point of, improvement of general anesthesia by adaptation of, to temperature of body, 789—ab
  general, ethyl chlorid as, in Pennsylvania Hospital, 2089—ab
  local, quinin as, 690—C
Anesthetics, deaths under, 854—ab
  general administration of, 623—ab
  personal factor in, 1646—ab
  prevention of deaths under, 1378—ab
  symposium on, 1624—ab
Anesthetist, professional, and hospital, 789—ab
Anesthetists, teaching of, 1167
Aneurism, arterial, ideal operation for, 1380—ab
  in children, 82—ab
  of aorta and pulmonary artery following rupture of arch of aorta, 255—ab
  of aorta *compressing heart and vessels at its base*, 537—ab
  of aorta, etiology, course and cure, 177—ab
  of aorta, relieved by calcium chlorid, 1555—ab
  of heart, 371—O
  popliteal, treated by Matas operation 790—ab
  popliteal, treated by reconstructive aneurismorraphy, 790—ab
  radical cure of, by intrasaccular suture, 1667—O
  treatment of, by direct gradual arterial closure, 1818—ab
Aneurismorrhaphy, 790—ab, 1667—O
  for popliteal aneurism, 790—ab
Aneurisms, large, pulsation of, nonexpansible, but transmitted, 2000—ab
Angina, Ludwig's, 1818—ab
  pectoris, 1425, 2094—ab
  pectoris and pseudoangina, 1544—ab, 2189—ab
Angioma, radium treatment of, 797—ab
Angiosclerosis, retinal, beginning signs of, 1357—ab
Anilin oil *poisoning*, 329
Animal experimentation, 636—O
  lay press on, 144
  experimentation, legislation on, in New York, 2228
  pigments, sensitizing action of, and its *physiologic significance*, 2011—ab
Animals, attempts to resuscitate by passing arterial blood through heart and central nervous organs, 2196—ab
  Roentgenized, and bacterial infection, 419—ab
  serum of, nephrotoxic substances in, with experimental nephritis, 1903—ab
Ankle joints, drainage of, 1188—ab
  region injuries, especially of scaphoid bone, 1114—ab
Ankylosis, bony, of joint, transplantation of periosteum in, 1822—ab
  bony, of knee, hip, and elbow joints, operative treatment of, 131—ab
  complete, of elbow, arthroplasty for, 2090—ab
  fibrous, of knee, 430—ab
  of jaws, 715—ab
Ankylostomiasis, sanitation regarding, in tropics, 1907—ab
Annandale, memorial to, 19
Anopheles, occurrence and habits of, breeding places, methods of destruction and conditions which favor it, 2203—O
Anorexia, 1994—ab
Anstie's rule for alcoholics, 692
Anthrax infection, abscess of nasal septum probably due to, 1697—O
  treatment of, 2196—ab
Antibodies in milk of syphilitic women, 1109—ab
  specific, behavior of Roentgenized animals to bacterial infection and formation of, 449—ab
Anti Corn Zine Chemical Company, how it extends its business, 2172
Antiferment treatment of suppurative processes without incision, 359—ab
Antiferments, action of, principles of *treatment of carcinoma* based on, 797—ab
Antigens from rabbits, serum diagnosis of syphilis with, 878—ab
Antikamnia, 1880
Antimalaria See Malaria
Antimeningitis. See Meningitis
Anti-phthisis (Lloyd), report of Council on Pharmacy and Chemistry on, 1794, 1986
Antiplague See Plague
Antiseptic vapors in pulmonary tuberculosis, 1646—ab
Antiseptics, urinary, intestinal and wound, fate and actions of, in body, 818—O
Antipepsin for gastric ulcer and for protection of stomach against autodigestion, 1558—ab
Antitoxin, diphtheria, 631 ab, 1472 ab
  diphtheria, production of, 539—ab
  diphtheria mortality and, 928—O
  diphtheria, skin reaction to, 1510—O
  diphtheria, sudden collapse following injection of, 38—O, 255—ab, 512—C
  diphtheria, to enhance efficiency of, 540—ab
  diphtheria, untoward results from, 1154—O
  in diphtheria, large doses of, 918—O, 1783—ab
  leucocytes in diphtheria before and after administration of, 1186—ab
  treatment of tetanus, serum sickness from, 97—ab
  universal, probability of, 947—ab
Antituberculosis See Tuberculosis
Antityphoid See Typhoid
Antrum, ethmoid and sphenoid, submucous resection of lateral nasal wall in chronic empyema of, 1136—O
  forceps, reverse, with sphenoid punch attachment, 1233—O
  maxillary, anatomic and pathologic conditions of, in relation to teeth, *2007—ab*
  maxillary, disease of, and general surgery, 2007—ab
  maxillary, ethmoidal perforation of inner corner of eye and involvement of, 1325—O
  maxillary, sinusitis of, and hay *fever and asthma, 352—ab*
Anuria with cancer of rectum, 2008—ab
Anus and rectum, bloodless amputation of, 991—O
  and rectum, imperforation of, surgical treatment of, in new born, 1640—ab
  and rectum, primary melanotic *sarcoma of, 790—ab*
  artificial, restoration of intestinal continuity following, 1186—ab
Anus, fistula, advantage of elastic ligature in, 1107—ab
  fistula, advantage of elactic ligature in, 1107—ab
  fistula, advantage of elastic ligation of, 799—ab
  imperforate, with rectovaginal fistula, 670—O
  and pulmonary artery, aneurism of, dissecting, following *rupture of* arch of aorta, 255—ab
  aneurism of, compressing heart and vessels at its base, 537—ab
  aneurism of dissecting, etiology, course and cure, 177—ab
  arch of, rupture of, dissecting aneurism of aorta and pulmonary artery following, 255—ab
Aortic insufficiency and kidney heart, characteristics of venous pulse in hypertrophy of left heart with, 174—ab
  insufficiency, suprarenal extract in, 459—ab
Aphasia complicating typhoid in child, 1185—ab
  motor, and diplegia, idiopathic epilepsy complicated by, 1778—O
  during whooping cough, 711—ab
Apocodein, caulophyllum and sodium succinate, uses of, 692
Apomorphin poisoning and retching and paralysis of muscles, 1381—ab
Apoplexy or head injury? 1437
  delayed, 164—ab
Apothecaries vs. metric system, 1869 O
Apparatus for artificial respiration when thorax is opened, 2198—ab
  for treating fractured patella, 792—ab, 1381—ab
  to provide visitors with complete view and for securing photographs and moving pictures of operations, 1551—ab
Appeal for square deal, 1710
Appendicectomy, complicated, method of partitioning off iliac fossa after, 1285—ab
  interval, are there objective reasons *for allowing patients to get* up early after, 1288—ab
  lumbar, 81—ab, 1867—O
  method of, 1110—ab
  necessity for, after perityphlitic abscess, 535—ab
Appendices epiploicæ, torsion of, 440—ab
Appendicitis, 67—ab
  acute, 1377—ab
  acute, castor oil in, 449—ab
  acute, differences in temperature in axillæ in, 1193—ab
  acute, in children, 1372—ab
  acute, leucocytes in diagnosis and prognosis of, 625—ab
  and irritation of right kidney and ureter, coexistence of symptoms of, 1727—ab
  atypical types of, and significance of abdominal pain, 625—ab
  and influenza, 449—ab
  blood in, 348—ab, 1288—ab
  chronic, fixation of movable cecum to relieve, 1383—ab
  cutaneous tenderness in, 795—ab
  economics of, 1808—ab
  further application of Fowler Murphy position, 1808—ab
  gangrenous, complicating hernia, 754—O
  hematuria complicating, *1372—ab*
  inflammation of Meckel's diverticulum simulating, 2060—O
  inflammatory conditions of abdomen and thorax differentiated from, 441—ab
  in negro, 2081—ab
  in women, 538—ab
  left sided pain in, 949—ab
  lymphatic and portal infections *following*, 441—ab
  mortality, 2081—ab
  mucous colitis and, 536—ab
  not operated on, phlebitis of left leg following, 707—ab
  pathognomonic symptom of, not hitherto described, 949—ab
  perforative, complicating pregnancy, 1310—O
  peritonitis due to, 2185—ab
  prophylaxis of, 1382—ab
  rectal drainage in pelvic abscess due to, 711—ab
  30 consecutive cases of, with diffuse peritonitis, 260—ab
  traumatism as etiologic factor in, 1110—ab
  treatment of, conservatism in, 67—ab
Appendicostomy, 115—ab, 785—ab
  in amebic dysentery, 250—ab
Appendix abscess, treatment of, 870—ab

Appendix and right Fallopian tube, abnormal position of 1598—O
  can we diagnose foreign substances in? 2009—ab
  cancer of primary 355—ab 795—ab
  carcinoma of with metastasis to ileocolic glands 260—ab
  hernia of 1855—ab
  disposition of stump of 1188—ab
  incarcerated femoral hernia containing 1154—O
  perforation of symptom of, 173—ab
  practical deductions in diagnosis and treatment of infections of, 1188—ab
  questions 644—O
  rupture during operation, 78—ab
  sarcoma of, and primary carcinoma, 260—ab
Appetite persistent loss of curative effect of rest in, children with, 1917—O
Appliance Brewis's for use after colotomy, 1820—ab
Apraxia, with autopsy, 1553—ab
Aqua regia nitrites and nitrous acid in determination of mineral constituents of urine, 1218—ab
Arctic a doctor in 234
Arizona, medical legislation in 1441
  state board April report, 519
  state board July report, 696
  state board, October report, 2085
Arkansas homeopathic 1908 report, 2086
  medical news, 1703
  state board, April report, 63
  state board July report 1100
  state board, October report, 2086
  surgeon 710—ab
Arm epithelioma of lower eyelid, with successful transplantation from 1356—ab
  or leg, what is covered by term, expert evidence excluded, 1547—ab
Armies, alcohol in 762—E
Arms and foot multiple and recurring patches of gangrene on, 174—ab
  and legs intermittent limping in, 1741—ab
  extraction of by Mueller's technic 1874—ab
  nervous disturbances of, in arteriosclerosis 2197—ab
Army and Navy, medical service in, 1440
  camp sanitation 1969—ab
  canteen facts about 1733—ab
  immunization against typhoid, 2063—E
  medical reserve corps 502—E
  modern medical service in, in war, 1995—ab
  report of surgeon general of, for 1908 1872—E
  surgeons Jews as in Germany, 930
Arneth's classification of neutrophile leucocytes and its application in pulmonary tuberculosis 2006—ab
Arrhythmia, cardiac, forms of, and myogenic theory, 1467—ab
  extrasystolic, diagnostic importance of, 1381—ab
  of heart 1902—ab
Arsenic 1083
  action of, on red blood corpuscles and theory of blood defect in pernicious anemia, 677—ab
  in diseases of skin, 259—ab, 1482—O
  in experimental nagana, 447—ab
Art works of, and commerce, chemistry and effects of bituminous coal smoke on 1815—ab
Arterial degeneration in rabbit 1056—O
  tension, high, 626—ab, 1544—ab, 2189—ab
Arteries mechanical factor in pathogenesis of disease of 680—E
  normal and pathologic, 2093—ab
Arteriosclerosis 1036—ab, 1727—ab
  and atheroma 1379—ab
  incipient artificial hyperemia of brain in 955—ab
  lesions of suprarenals in 2089—ab
  nervous disturbances of arms in, 2197—ab
  of nervous system 169—ab
  of uterus 1174—ab
  pathogenesis and treatment, 173—ab, 448—ab
  pulmonary, clinical diagnosis of, 955—ab
  sclerosis of lymphatics corresponding to 1475—ab
  toxic origin of 712—ab
Arteriovenous intubation in, angiosclerotic gangrene, 631—ab
Arteritis septic in children 82—ab
Artery cerebellar posterior inferior, symptom complex of occlusion of, 163—ab,
Artery, coronary, sclerosis of 1465—ab
  innominate, ligation of 1071—O
  posterior inferior cerebellar, thrombosis of, with autopsy revealing lesion in medulla, 163
  pulmonary, dissecting aneurism of, following rupture of arch of aorta, 215—ab
  pulmonary, embolism of, operative treatment of, 358—ab, 539—ab, 713—ab
Arthritis, chronic non tuberculous, etiology of, 890—O
  deformans, multiple, 124—O
  deformans of hip, new operation for, 431—ab
  gonococcus, bacteriotherapy and diagnosis of 44—E 143—C
  gonorrheal, electrotherapy of, 530—ab
  gonorrheal, injections of dead gonococci in, 74—ab
  gonorrheal, antigonococcus serum in, 256—ab, 674—O
  rheumatoid treatment of, 342—ab
  toxic, of hip joint in children, diagnosis and treatment, 2080—ab
  tuberculous, of hip joint, 1537—ab
Arthroplasty for complete ankylosis of elbow, 2090—ab
Ascites, death after tapping, 1555—ab
  milky, 873—ab
Asepsis and infection, influence of, on technic of Cesarean section, 1618—ab
  in operations on intestines, 1040—ab, 2095—ab
Asphyxia, due to pleural adhesions, 1897—ab
Asphyxiation, control of spasms by, 1278—ab
Aspirin in typhoid, 1891—ab
Association of American Medical Colleges 585
  of State and National Food and Dairy Departments, 858
  of Tropical Medicine formed, far eastern 328
Astereognosis and tactile asymbolia, 1909—ab
Asthenia universalis and tuberculosis of lungs 1253—ab
Asthma, 2158
  and eczema, 539—ab
  and other chest troubles, outdoor sleeping for, 354—ab
  and pulmonary emphysema, 716—ab
  and thymus 360—ab
  bronchial and emphysema of lungs, manual mechanical and gymnastic treatment of 541—ab
  bronchial, electric treatment of, 2194—ab
  bronchial, in children, 874—ab
  in children, etiology of, 715—ab
  origin and treatment of, 265—ab
  remedies for, 41—ab
  treatment of, 354—ab
Astigmatism lenticular, 302—O
Asymbolia tactile, and astereognosis, 1909—ab
Asystole, fatal, in exophthalmic goiter, 538—ab
Atheroma and arteriosclerosis, 1379—ab
Athletics, oxygen inhalations in, 855—ab
Atlas dislocation of, 74—ab 75—ab
Atony, vascular, of surgical shock, experimental production and control of 1377—ab
Atoxyl and foreign albumin influencing of malignant tumors by, 797—ab
  in skin diseases 1482—O
  poisoning, pathology of, 1193—ab
Atrophies reflex necessity for early electric treatment in, 537—ab
Atrophy, acute yellow, of liver in pregnancy, 1871—ab
  in joint disease, cause of, 343—ab, 1553—ab
  progressive muscular bulbar paralysis followed by, 1283—ab
Atropin sulphate in general anesthesia 1440
Auricle, disturbances in conduction of impulse to, 2097—ab
Auscultation vertebral in diagnosis of bronchial adenopathy, 709—ab
Austria new medical regulations in, 686
  tuberculosis in, mortality from, 236
  vaccination in 930—C
Autodigestion, protection of stomach against and antipepsin for gastric ulcer, 1558—ab
Autointoxication gastrointestinal, ethereal sulphates in urine in, 1822—ab
  intestinal, and treatment, 946—ab
Autointoxication, purin, due to non use of meat, 67—ab
Automobile injuries, 2195—ab
Autopsies mortality rate in, 566—ab
Autosuggestion in neurasthenia 535—ab
Axilla in acute appendicitis differences in temperature in, 1193—ab
  supernumerary mammae in, 82—ab

B

Babies sick, summer camp for, 715—O
Baby farms, 707—ab
  personally conducted 2000—ab
Bacilli carrier, dysentery, 1289—ab
  carrier, endemic typhoid from, 1825—ab
  carriers and transmission of infectious diseases 1038—ab
  carriers typhoid, 981—O
  diphtheria, group of, variability in, 2003—ab
  paratyphoid, resistance of, in dried human stool, 2011—ab
  tubercle action of diffused light on 1252—ab
  tubercle, and tuberculosis in man and cattle 2096—ab
  tubercle, cultural characteristics of, 1252—ab
  tubercle, danger in using cow's milk containing 2233—ab
  tubercle, error sometimes made in examining sputum for, 2055—ab
  tubercle, human and bovine, and tuberculosis 2194—ab
  tubercle, human bovine or avian, ocular tuberculin test in guinea-pigs infected with, 1901—ab
  tubercle in butter, 322—E
  tubercle in urine determination of, 541—ab, 1044—ab
  tubercle in sputum tuberculosis with and without, 1828—ab
  tubercle intermediate and atypical varieties primary cervical adenitis in man 1362—ab
  tubercle, may not sewage contaminated water be means of dissemination of, 380—O
  tubercle morphology and biology of, 1259—ab
  tubercle, non acid fast, 1428—E
  tubercle, of human type, infections with 866—ab
  tubercle opsonic power of breast *milk for 1366—ab*
  tubercle, staining of, in tissue preserved in alcohol, for 60 years, 1982—ab
  tubercle, transformation of human and other types of, and relation between human and animal tuberculosis, 2088—ab
  tubercle, unity of, 1258—ab
  tubercle, viability of 1259—ab
  tubercle, viability of, 1252—ab
  typhoid, scanty, detection of, 799—ab
Bacillus bulgaricus fate of, in digestive tract of monkey, 1732—ab
  coli communis rate of multiplication of at different temperatures, 2003—ab
  influenzæ and other organisms in recent epidemic in Boston, 1903—ab
  Koch's flies as agents in dissemination of, 1254—ab
  lactic acid, in digestive tract and functional gastric disturbances, 1910—ab
  paratyphosus illness caused by, and its pathologic appearances, 1652—ab
  tubercle, bovine and human type, 1258—ab
  tubercle, chemistry of, 1448—ab
  tubercle viability of, 1257—ab
  typhoid, viability of, in body, 2183—ab
  typhosus, placental transmission of, 532—ab
Bacteria, dead phagocytic immunity and therapeutic injection of, in *endocarditis* 1571—O
  in milk comparison of practical methods for determining 2007—ab
  production of immunity by inoculation of increasing numbers of, 1446—ab
Bacterial vaccines autogenous 1806—ab
  vaccines in pyogenic processes 792—ab
Bacteriemia, postpartum 867—ab
  puerperal, treatment of, 447—ab
Bacteriology of measles 80
  of puerperal uterus 865—ab
Bacteriotherapy and diagnosis of gonococcus arthritis, 44—E, 143—C
Balance and a new form of shoemakers' last, 431—ab
Bandage, new method of applying, and mechanical treatment of visceral ptosis, 1270—ab
Banti's Disease See Splenomegaly
Barium, cause of loco weed disease, 1338—E
Bartholinitis, acute and chronic, 1285—ab
Bassini institute at Milan, 138
Bath continuous, in surgery, 265—ab
Baths and exercises in heart disease, 1036—ab
  carbonated mineral, and exercises, in chronic heart diseases, 784—ab, 1110—ab
  incandescent light, in chronic bronchitis 798—ab
  moving air, and light, in general *affections, 1470—ab*
Beauperthuy, Dr Louis Daniel, and yellow fever, 72—ab
Becquerel 928
Bee stings and rheumatism, 1644—ab
Beef pickle, 1349
  wine and iron 1025
Behring, Professor, 236
Belladonna and aconite, physiologic antagonism between, 951—ab
  poisoning 1696—O
Berlin causes of decline of mortality from tuberculosis in, 712—ab
  letter, *51, 138, 235, 329, 419, 510,* 613 856 929 1023, 1094 1246, 1438 1523 1613, 1708, 1794, 1879, 1985, 2070, 2170, 2256
Beta eucain lactate, 1337
Bibliographic work, honest and dishonest, 1976—E
Bidloo's anatomic dissections, 933
Bier cup, in recent empyemas, 572—O
Bier's Hyperemia See Hyperemia
Bile channels and gall bladder in*flammation of,* without gallstones, 448—ab
  duct, common, and ampulla of Vater, melanotic sarcoma of, 260—ab
  duct, common, cause of sudden fall in blood pressure while exploring, 1731—ab
  hemolytic action of, and its inhibition by blood serum, 1464—ab
  salts, 2160
Biliary ducts, surgical anatomy of, 1286—ab
  passages operative *treatment of* traumatisms of, 1985—ab
  tract, difficulties and dangers in operations on 1035—ab
  tract inflammation medical treatment of, 1900—ab
Bill German antiquackery, 235
Bills, meritorious, introduced by Con*gressman Mann, 334*
Binders, infant dangers and evil effects of, 172—ab
Births *male and* female, relative proportions of, 616
Bismuth and iron citrate, soluble, 2160
  and lithium citrate (soluble), 2219
  opium and phenol, examination of tablets of by Council on Pharmacy and Chemistry, 330—O
  poisoning, fatal, 2012—ab
  paste in rectal fistula, 1634—ab
  paste in tuberculous sinuses, 860
  paste paraffin in 1885
  subnitrate, nitrite poisoning by ingestion of, 1514—E
  subnitrate, nitrite poisoning from, ingestion of, 1714—C
Black art in 20th century, 1018—E
Bladder affections, retention catheterization in, 87—ab
  and prostate, cysts near, 1471—ab
  and urethra, common errors in treatment of, 160—ab
  and urethra, suture of sphincters of, for incontinence of urine, 161—ab
  and uterus, traumatic rupture of, during labor at term, 1406—O
  calculi renal origin of, 885—O
  calculus in with intermittent pneumaturia and subsequent formation of fecal fistula, 260—ab
  cancer of, 2183—ab
  carcinoma of, radical treatment of, 1372—ab
  device for prolonged irrigation and drainage of, after prostatectomy, 948—ab
  female, 1819—ab
  foreign bodies in, method of dissolving, 717—ab
  hernia of, 2097—ab
  injuries during hernia operations, 1458—ab, 1722—ab
  multiple fracture of pelvis and femur with trauma of kidney and impaction of pubic arch in, 948—ab

Bladder neuroses, 76—ab
  or prostate, advanced cancer of, bilateral ureterostomy in, 443—ab
  rupture of traumatic, 1612—ab
  transmission of pressure from, to kidney, 501—E
  tuberculosis, 1538, 1728—ab, 1901—ab, 2003—ab
  tumors, 2186—ab
  tumors in children, 1912—ab
  tumors, operative treatment of, 160—ab
  tumors, transperitoneal, removal of, 791—ab
  wounds, gastric and duodenal ulcers secondary to, 260—ab
Blastomyces, cases probably mycotic, but not evidently due to, 1868—O
Blastomycetes in blood, 1744—ab
Blastomycosis of skin, 67—ab
  resembling bone tuberculosis, 344—ab, 1553—ab
Blenz's remedy, 1524
Blepharitis, 1698—ab
Blood and iodin, viscosity of, 873—ab
  arterial, attempts to resuscitate animals by passing through heart and central nervous organs, 2196—ab
  atypical and large mononuclear cells of, 1235—ab
  blastomycetes in, 1744—ab
  clotting time of, factors influencing, 1542—ab
  coagulability of, in pulmonary tuberculosis, 1898—ab
  coagulating property of, 2099—ab
  corpuscles, mica plates for research on, 1474—ab
  corpuscles, red, action of arsenic on, 627—ab
  corpuscles of foreign species, intravenous injection of, cause of sudden death, following, 1903—ab
  counts, red, 1086—ab
  culture and studies, negative results in, 1902—ab
  cultures in typhoid, 866—ab
  defect in pernicious anemia, 627—ab
  diagnosis of African tick fever from examination of, 1185—ab
  diseases and digestive tract, 1542—ab
  diseases, and sarcoma, 2004—ab
  examination of, in peripheral vessels in circulatory disturbances, 1117—ab
  findings, diagnostic, in fourth disease, 1699—ab
  findings of pernicious type in severe anemia, *1973—O*
  formed elements of, importance of, for prognosis in puerperal affections, 82—ab
  in acromegaly, chemical and histologic study of, 1288—ab
  in appendicitis, 348—ab, 1288—ab
  in exophthalmic goiter, 1286—ab
  in exophthalmic goiter and thyroidism, 1558—ab
  in meningitis, 177—ab
  in periodical acetonemia in children, 1289—ab
  in pernicious anemia, symptoms and condition of, 952—ab
  in puerperal fever in respect to prognosis, 1473—ab
  in splenic anemia and splenectomy, 866—ab
  in trypanosome infections, acidity and alkalinity of, 1038—ab
  in urine, hydrogen dioxid test for, 988—ab
  local anesthesia of limb by venous transfusion after expulsion of, 1040—ab
  method for measuring clotting time of, 1109—ab
  method of expelling, from lower half of body, 177—ab, 1742—ab
  morphologic study of, at bedside, 174—ab
  morphology of, in pertussis, 1462—ab
  occult, in stools and stomach content, in gastrointestinal affections, 83—ab
  of hydrophobia patient, 78—ab
  pneumococcus in, pulmonary tuberculosis, 1823—ab
  precipitin test for, 779
  production and artificial hemolysins, 1383—ab
  production, extrauterine, experimental study of, 176—ab
  quantitative research on, 446—ab
  serum, action of drugs on, 356—ab
  serum, hemolytic action of bile and its inhibition by, 1464—ab
  serum, human, phagocytosis occurring in, when mixed in vitro with horse serum, 951—ab
Blood serum in malignant disease, cytolytic factor occurring in, 915—O
  serum, normal, pro-infective action of, 1464—ab
  sodium chlorid content of, and other body fluids, 478—O
  smears, microscopic diagnosis of disease by, 71—ab
  specific gravity of, value of taking, during saline transfusion in cholera, 2191—ab
  stain, Hasting's technic of, 2230
  test to determine adaptability of, donor's, to receiver's in transfusion, 947—ab
  transfusion, new method of, 2089—ab
  tuberculosis immune, in treatment of tuberculosis, 1470—ab
  vessel anastomosis by rubber tubing, 1550—ab
  vessel surgery, 1658—O
  vessels and organs, permanent results of transplantation of, 2194—ab
  vessels, cerebral, problems in diagnosis of disease of, 179—O
  vessels, large, and heart, percussion of changes in diameter of, in febrile affections, 1562—ab
  vessels, large, clamping of, near heart in operative treatment of pulmonary embolism, 2097—ab
  vessels, large trunk, necrosis of limbs after ligation of, 797—ab
  vessels, organs and limbs, transplantation of, 1662—O
  vessels, retinal, gross obstructive diseases in, 1357—ab
  vessels, serous coat of, compared with peritoneum, 790—ab
  vessels, transplanted, drainage of ventricles of brain by, 2095—ab
  vessels, uterine and ovarian, hemorrhage following section of, in dogs and its possible bearing on ruptured pregnancies, 1816—ab
  viscosity of, 1653—O, 1825—ab, 2073—C, 2097—ab
Blood-pressure and polycythemia, 2009—ab
  and work of heart, in obstetrics, 914—ab
  cause of sudden fall in, while exploring common bile duct, 1731—ab
  factors in estimation of, 1000—O
  high, and retinal hemorrhages, 1733—ab
  in eclampsia, 256—ab
  in man, 1735—ab
  in neurasthenic states and effects of treatment, 626—ab
  in tuberculosis at high altitude—944 ab
  increased, and cerebral hemorrhage, 2090—ab
  lowering reflexes from irrigations of chest in empyema, 1816—ab
  measurement of, in chronic nephritis, 1911—ab
  normal and pathologic, association of, with age and incipient cataract, 400—O
  systolic and diastolic, measurement of, 1041—ab
  systolic, measurement of, 1285—ab
Body elevator and support for operations on abdomen and trunk, 126—O
  lower half of, method of expelling blood from, 177—ab, 1742—ab
Boils, abortive treatment of, 675—ab
Bone and joints, syphilis of, 947—ab
  fragility and eburnation of rickets, 344—ab
  hyoid, caries of, 1425—O
  infections, non-tuberculous, about hip, 1184—ab
  plastic operation on, 1010—ab
  tuberculosis, 250—ab, 948—ab
  tuberculosis, blastomycosis resembling, 344—ab, 1553—ab
  tuberculosis, histogenesis of, 1449—ab
  tuberculosis, surgical, in adults, fresh air and hyperemia in, 1540—ab
Bones and joints, tuberculosis of, how Minnesota cares for indigent children with, 1541—ab
  children's, apparently undescribed affection of, 1474—ab
  forearm, fractures of, operation by direct and internal splintage in, 1379—ab
  long, fracture of, 1185—ab
  long, fractures of, necessity for end-to-end apposition in, 1737—ab
  long, fractures of shaft of, extension treatment of, 1190—ab
  long, hydatid disease in, 1114—ab
Bones, maxillary, compound, comminuted fractures of, 1697—O
  of nose and face, non-specific ulceration of, 1465—ab
  plastic operations on, 1040—ab
  tuberculosis of, in children, seashore and fresh-air in, 1628—ab
Bony union, when is it complete after excision of knee? 430—ab
Books, disinfection of, 1108—ab
Booze miracle, proprietary, 1865—ab
Brain abscess, 667—O
  abscess, and pyonephrosis, 756—O
  abscesses, diagnosis of, 632—ab
  affections, importance of motor disturbances in external ocular muscles for, focal localization of, 447—ab
  and eye complications of anemia and probable relation to thrombosis, 1378—ab
  artificial hyperemia of, in incipient arteriosclerosis, 955—ab
  centers for taste and smell and for uncinate group of fits, 879—O
  complications of otitic origin, 338—ab, 626—ab, 1356—ab
  concussion, 531—ab
  diagnostic phenomenon in diseases of, 461—O
  disease and paresis in railway employes, data regarding, 161—ab
  disease, headache of, 1035—ab
  drainage of ventricles of, by transplanted blood vessels, 2095—ab
  findings in infants with inherited syphilis, 1912—ab
  gliosis and vascular lesions of right side of, causing progressive left-sided hemiplegia, 1035—ab
  hemorrhage, extensive, duration of life after, 2101—O
  influenza, 79—ab
  inhibition, and motor function, 183—O
  non-penetrating trauma of, question of operation for, 790—ab
  puncture of, 1820—ab
  rheumatism of, 717—ab
  surgery, 630—ab
  symptoms in hydrocephalus, 1933—O
  syndrome cured by antisyphilitic treatment, 717—ab
  traumatism of, 1818—ab
  tumor, 342—ab, 1057—O, 1375—ab
  tumor, localization and removal, 69—ab
  tumor localized and removed; symptomology of lesions in parietal lobe, 1108—ab, 1109—ab
  tumor of temporal lobe, 69—ab, 879—O
  tumor, symptomatology of, 1825—ab
  tumors, diagnosis of, 86—ab
  tumors in children, 82—ab
  tumors, ocular symptoms of, 1036—ab
  tumors, pathology of, 953—ab
  tumors, surgery of, 541—ab
  ventricles of, subcutaneous continuous drainage of, in hydrocephalus, 356—ab
  vessels, diseased, diagnosis of, 179—O, 950—ab
  weight of, as influenced by nutrition or disease, 68—ab
Brains of eminent men, 322—E
Branchial cleft, first, sinus of, 1033—ab
Brazil, climate and diseases of, 712—ab
Breast, abnormal secretion from, in non-pregnant women, 1839—O
  cancer of, indications for operation, 1190—ab
  cancer of, late, recurrence after operation, 1731—ab
  carcinoma of, 524—ab
  conditions that require removal of child from, 167—ab
  feeding, importance of, for reduction of infant mortality and means to promote it, 1173—ab
  milk-secreting cyst in, 1744—ab
  secretion from in male, 2075—C
  tuberculosis of, 1363—ab
  tumors in childhood, 2090—ab
  tumors of, improvement in operations for, 1543—ab
Breasts, carcinoma of, 1468—ab
Breath, foul, 1975
Breathing exercises, cure of chronic bronchitis by, 356—ab
  mouth, causes and evils of, 1819—ab
British Medical Association, annual meeting of, 685
Bromural, isopral and chloral hydrate, comparative study of dosage and effects of, on cats, 487—O
Bronchial and mediastinal glands, enlarged, physical determination of, 715—ab
  glands and apices, x-ray diagnosis in tuberculosis of, 1192—ab
Bronchitis, chronic, cure of, by breathing exercises, 356—ab
  chronic, incandescent light baths in, 798—ab
  chronic, inhalation of fumes of nitric acid in, 1475—ab
Bronchoscope and esophagoscope, removal of foreign bodies by, 388—ab
  esophagoscope and gastroscope, use of, 790—ab
Bracin, action of, 1525—ab
Brushes, alleged tuberculous infection by, 685
Buffalo lithia water, 931—C
Bundle of His, Adams-Stokes' disease with induration in, 630—ab
Bugs, extirpation of, 1118—ab
Burns, hot horse serum in, 229—ab
  treatment of, 793—ab
  treatment of, by rubber tissue, 333
Bursitis subacromial, 432—ab, 1639—ab, *1730*—ab, *1815*—ab, *1901*—ab, 2234—ab
  subdeltoid, 432—ab, 1639—ab, 1730—*ab, 1815—ab, 1901—ab, 2234—ab*
Business world, modern, place of woman in, as affecting home life and marriage, 429—ab
  world, woman in, as affecting health and morals, 429—ab
  world, modern, woman in, as affecting health of race, 429—ab
Butter, tubercle bacilli in, 322—E
Buttermaking, chemical changes in, 1439

BOOK NOTICES.

Abderhalden, E., Text-Book of Physiologic Chemistry, 1716
Abdominal Tuberculosis, *1445*
Adami, J. G., Principles of Pathology, 1532
Adamson, H. G., Skin Affections in Childhood, 516
Adenomyoma of Uterus, 1248
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Ballenger, W. L., *Diseases of the Nose Throat and Ear, 423*
Bardswell, N. D., Diets in Tuberculosis, 1098
Barrus, C., Nursing the Insane, 239
Baruch, S., Hydrotherapy, 59
Bashore, H. B., The Sanitation of Recreation Camps and Parks, 149
Biochemie der Menschen und der Tiere, Handbuch der, 147
Blutarmut und Bleichsucht, 1249
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Childhood, Skin Affections in, 516
Children, Diseases of, Treatment of, 239
Cholécysto-Pancréatite, 1798

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Clarke, J. J., Protozoa and Disease, 239
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Efficient Life, 148
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Essentials of Surgery, 1618
Eye, Commoner Diseases of, 149
Eye, Muscles of, 516
Eye, Pathology of, 1098
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Fractures and Dislocations, Practical Treatise on, 148
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Fröhner and Friedberger's Veterinary Pathology, 1444
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Harbin, R. M., Health and Happiness, 1098
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Harvey, W. F., Theory and Practice of Antirabic Immunization, 423
Hay Fever, Hay Asthma, Its Causes, Diagnosis and Treatment, 1445
Healing of the Nations, 423
Health and Happiness, 1098
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Hernia, 516
Holloway, T. B., Pulsating Exophthalmos, 1444
Howe, L., Muscles of the Eye, 516
Hoxie, G. H., Practice of Medicine for Nurses, 60
Hubbell, A. A., Development of Ophthalmology in America, 1800 to 1870, 59
Huxley, T. H., Teachings of, 1445
Hydrotherapy, 59
Hygiene, Industrial and Personal, 1247
Immunization, Antirabic, Theory and Practice of, 423
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Industrial and Personal Hygiene, 1247
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Insane, Nursing of, 239
Insomnia and Nerve Strain, 776
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Kolle, F. S., Subcutaneous Hydrocarbon Protheses, 2083
Lectures, Clinical, Third Series, Borderland of Epilepsy, 238
Lewis, D., Hernia, 516
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Linacre, Thomas, 1618
Lloyd, W., Hay Fever, Hay Asthma, Its Causes, Diagnosis and Treatment, 1445
Mallory, F. B., Pathologic Technic, 2083
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McLaughlin, J. C., An Abridgement of Practical Medicine and Allied Sciences, 59
Meat and Food Inspection, 148
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Medical Gynecology, 1247
Medical Record Visiting List for 1909, 2180
Médicaments Microbiens: Bactériothérapie, Vaccination, Sérothérapie, 1997
Medicine and Surgery, Contributions to the Science of, 615
Medicine for Nurses, Practice of, 60
Medicine, Modern, Its Theory and Practice, 1247
Medicine, Practical, and Allied Sciences, an abridgement of, 59
Meller, J., Ophthalmic Surgery, 1248
Mental Virility, Age of, 1797
Metchnikoff, Médicaments Microbiens; Bactériothérapie, Vaccination, Sérothérapie, 1997
Micholitsch, Th., 690
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Mossler, G., Die Prüfung nichtoffiziellen Präparate, 775
Mumford, J. G., Surgical Memoirs and Other Essays, 2181
Münsterberg, H., On the Witness Stand, 59
Murphy, J. B., General Surgery, 60
Murray, R. W., Hernia, 516
Muscles of the Eye, 516
Nations, Healing of, 423
Nervous Diseases and Psychiatry, Text-book of, 1998
Neter, E., Die Behandlung der *straffälligen* Jugend, 1248
Neurographs. A Series of Neurologic Studies, Cases and Notes, 59
Nicolaysen, J., Den Strikturerende Tyndtarmtuberkulose og dens Kirurgiske Behandling, 1716
Nose and Throat, Diseases of, 1998
Nose, Throat and Ear, Diseases of, 423
Nursing the Insane, 239
Obstetrics, 775
Operations of Surgery, 775
Ophthalmic Surgery, 1248
Ophthalmology in America 1800 to 1870, Development of, 59
Oppenheimer, Carl, Handbuch der Biochemie der Menschen und der Tiere, 147
Osler, W., An Alabama Student, 1617
Osler, W., Thomas Linacre, 1618
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Panik im Kriege, 1444
Parsons, J. H., Pathology of the Eye, 1098
Paterson, H. J., Gastric Surgery, 690
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Pharmacology, 423
Philibert, A., Les Pseudo-Bacilles Acido-Résistants, 148
Phillips, R. J., Spectacles and Eyeglasses, Their Forms, Mounting and Proper Adjustment, 2083
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Physician's Visiting List 1909, 1798
Physiologic Chemistry, Text-Book of, 1716
Physiologie, Taschenbuch der, 149
Physiology, Human, Elements of, 60
Physiology, Human, Text-Book of, 2180
Piroplasma Canis and Its Life Cycle in Tick, 238
Points of Practice in Maladies of the Heart, 1444
Pope, A. E., Essentials of Dietetics, 775
Practitioner's Visiting List for 1909, 2180
Pron, L., Formulaire Synthètique de Médecine, 148
Protozoa and Disease, 239
Prüfung nichtoffiziellen Präparate, 775
Pseudo-Bacilles, Les, Acido-Résistants, 148
Psychiatry and Nervous Diseases, Text-Book of, 1998
Pulmonary Tuberculosis and Its Complications, 1617
Pulsating Exophthalmos, 1444
Religion and Medicine, 2082
Remedies, Newer, 148
Renvall, G., Ueber Appendicitis während Schwangerschaft und Geburt, 2082
Robertson, W., Meat and Food Inspection, 148
Rose, A., Medical Greek, 1098
Rowlands, Operations of Surgery, 775
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Sexuellen Pädagogik in der häuslichen Erziehung, 1248
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Skin Affections in Childhood, 516
Sluss, J. W., Emergency Surgery, 1998
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Spectroscope, 60
Spillmann, L., Syphilis Osseuse (Syphilis Acquise), 1997
Spinal Cord, Diseases of, 1617
Starling, E. H., Elements of Human Physiology, 60
State-Board Questions and Answers, 59
Straffälligen Jugend, Behandlung der, 1248
Stimson, L. A., Practical Treatise on Fractures and Dislocations, 148
Stirnhöhlenentzündungen, Die Komplikationen der, 2180
Strikturerende Tyndtarmtuberkulose og dens Kirurgiske Behandling, den, 1716
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Subcutaneous Hydrocarbon Prothesis, 2083
Surgery, 615
Surgery and Medicine, Contributions to the Science of, 615
Surgery, Aural, Short Practice of, 1248
Surgery, Clinical, Atlas of, 2180
Surgery, *Emergency*, 1998
Surgery, Essentials of, 1618
Surgery, General, 60
Surgical Memoirs and Other Essays, 2181
Sutherland, G. A., Treatment of Diseases of Children, 239
Syphilis, 516
Syphilis Osseuse (Syphilis Acquise), 1997
Teachings of Thomas Henry Huxley, 1445
Technique of Vagino-Peritoneal Operations, 690
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Theory and Practice of Antirabic Immunization, 423
Therapeutics; Its Principles and Practice, 1618
Thomson, H. C., Diseases of the Nervous System, 775
Throat and Nose, Diseases of, 1998
Tropical Medicine, Aids to, 1998
Tuberculosis, Abdominal, 1445
Tuberculosis and Sanatoria for Consumption, 2082
Tuberculosis, Campaign Against, in United States, 1798
Tuberculosis, Diets in, 1098
Tuberculosis in Massachusetts, 1997
Tuberculosis, Pulmonary, and its Complications, 1617
Tuberkulose, kongenitalen, Die Lehre von der, 2083
Tyrode, M. V., Pharmacology, 423
Upson, H. S., Insomnia and Nerve Strain, 776
Uric Acid as Factor in Causation of Disease, 1097
Uterus, Adenomyoma of, 1248
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Veterinary Pathology, 1444
Voorhees, I. W., Teachings of Thomas Henry Huxley, 1445
Walton, G. L., Why Worry? 776
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Why Worry? 776
Williams, J. W., Obstetrics, 775
Williamson, J. R., The Healing of the Nations, 423
Williamson, R. T., Diseases of the Spinal Cord, 1617
Witness-Stand, On the, 59
Women, Diseases of, Text-Book of, 2181
Wood, C. A., Commoner Diseases of the Eye, 149
Wood, H. C., Therapeutics; Its Principles and Practice, 1618
Woodruff, T. A., *Commoner Diseases* of the Eye, 149
Worcester, E., Religion and Medicine, 2082
Writings of Sir William Broadbent, 690
Wyeth, J. A., *Surgery, 615*
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C

Caisson Disease: See Compressed-air Illness.
Calcaneo-cavus, paralytic, operation for, 77—ab
Calcium chlorid, aortic aneurism relieved by, 1555—ab
  lactate, 1527
Calculi, renal and ureteral, x-ray diagnosis of, 169—ab
  renal, diagnosis and treatment, 1905—ab
  renal, removal of, temporary hemostasis during, 2099—ab
  ureteral, 167—ab
  vesical, renal origin of, 885—O
Calculus and tuberculosis of kidney with perinephric abscess, 353—ab
  and tuberculosis, results of operation on kidney for, 353—ab
  renal, 1633—ab
  renal, diagnosis and treatment of, 353—ab
  renal, prevention of recurrence of, 2195—ab
  ureteral, surgery of, 512—C
  vesical with intermittent pneumaturia and subsequent formation of fecal fistula, 260—ab
California, Jones' work in, 1623
  law, new, what constitutes practicing medicine, etc., under, 1637—ab
  medical news, 46, 505, 680, 851, 925, 1087, 1161, 1605, 1876, 1979
  plague in, and antiplague campaign, 1010—O, 1016—E
  state board April report, 153
  state board August report, 1171
Calomel, effect of chlorin water on, 2178
  ointment, 1990
  salve, failure of, to protect against syphilis, 176—ab
  with lemonade and with chlorin, 1885, 2178
Cammidge pancreatic reaction, 691
Camp, night, for consumptives, 680—E
  summer, for sick babies, 745—O
Camps and hospitals, consumptive, are they a menace to neighborhood? 309—ab

- Canada medical news, 418, 770, 854, 1022. 1166, 1521, 1611, 1792, 1983
  - registration in, 1102
- Canal-Zone, 321—E
  - hygiene in, 1022
  - 3 years medical and sanitary record in, 78—ab
- Cancer: See also Carcinoma.
  - and toxemia of pregnancy, functions and relations of syncytium *to*, 947—ab
  - and tuberculosis, descendants of persons who have died of, 1382—ab
  - and tuberculosis, hemolysis and, 2036—O
  - antitryptic power of blood serum in, 83—ab
  - autoinoculation of, 159—ab
  - causation of, laboratory experiments on, 252—ab
  - clinical notes on, 448—ab
  - cytolytic factor in blood serum in, 915—O
  - diminished cardiac dullness in diagnosis of, 871—ab
  - epithelial, arsenious acid treatment of, 1990
  - etiologic problem of, 797—ab
  - excision of rectum for, 1107—ab
  - formic acid derivatives in, 1466—ab
  - Gastric: See Gastric Cancer.
  - hemolysis in, 2162—E
  - heredity in, 2190—ab
  - human, hemolytic reactions in, 1903—ab
  - *in Travancore*, South India, 2005—ab
  - in Uruguay, propaganda against, 203—ab
  - inoperable, 441—ab, 1371—ab
  - inoperable, treatment of, 1553—ab
  - *is it a disease of locality?* 2003—ab
  - lightning treatment of, 541—ab, 713—ab, 1474—ab
  - metastases, lymphatic permeation in, and its significance for radical operations, 2164—E
  - morbid states preceding, 797—ab
  - non-relationship of active cell division to prognosis in, 910—O
  - of appendix, primary, 355—ab, 795—ab
  - of bladder, 2183—ab
  - of bladder or prostate, bilateral ureterostomy in, 443—ab
  - of breast, indications for operations, 1190—ab
  - of breast, late recurrence, after operation, 1731—ab
  - of breast, permanent cure of, 713—ab
  - of cervix, results *of* vaginal ablation of, 1338—ab
  - of cheek involving jaw, operation in, 1730—ab
  - of female genitalia, treatment of, 354—ab
  - of intestine and foreign bodies, 2008—ab
  - *of large intestine*, colectomy for, 629—ab
  - of mouth and tongue, 1730—ab
  - of mouth, in Southern India, 79—ab
  - of pancreas, 1178—ab, 1908—ab
  - of rectum, 1276—ab
  - of rectum, anuria with, 2008—ab
  - of rectum, treatment of, 360—ab, 1728—ab
  - of sigmoid and rectum, surgery of, *167—ab*
  - of Stomach: See Gastric Cancer.
  - of testicle, condition of glands in, 873—ab
  - of uterus, diagnosis of, and of late syphilis of uterus, 268—ab
  - of uterus, early diagnosis of, 419
  - of uterus, immediate and remote results of hysterectomy for, 2008—ab
  - of uterus, late recurrence after incomplete operation for, 1914—ab
  - of uterus not a disease peculiar to women, 2185—ab
  - operations, abdominal, cystoscopy and *indications and prognosis* for, 877—ab
  - palliative treatment of, by x-ray, *947—ab*
  - problem, modern aspects of, 256—ab
  - radiotherapy of, biologic principle of, 2010—ab
  - research, 1740—ab
  - research *and campaign* against, 419
  - research association, French, 514
  - research fund, third *scientific* report of, 1522
  - septicemia, secondary, 2236—ab
  - statistics, appeal for uniformity in, 1195—ab
  - superficial, early treatment *of*, 894—O
  - superficial, radium bromid, rather than operation or x-ray in early treatment of, 432—ab
- Cancer, surgery of, at dawn of 20th century, 1556—ab
  - surgical treatment of, 1815—ab
  - transplantable mouse, resistance of, to freezing with liquid air, 2003-ab
- Cancers, abdominal, secondary "implanted," 356—ab
  - multiple, 178—ab
- Cannabin tannate (Merck), 1780—O
- Canned mud from exploiters of nostrums and impure foods, 323—E, 331
- Cannula, modified Crile transfusion, 1233—O
- Canteen, Army, facts about, 1733—ab
- Capudine, report of Council on Pharmacy and Chemistry on, 1347
- Car sickness, 965—ab
- Carbon dioxid snow, in nevi and other lesions of skin, 356—ab, 1037—ab
- Carbonic acid, 757—ab
- Carbuncle, treatment of, 1825—ab
- Carcinoma: See also Cancer.
  - nature of, and early diagnosis of gastric carcinoma, 1541—ab, 2000—ab, 2189—ab
  - of appendix, *primary*, and sarcoma, 260—ab
  - of appendix with metastasis to ileocolic glands, 260—ab
  - of bladder, radical treatment of, 1372—ab
  - of breast, 524—ab, 1468—ab
  - of cervix uteri, radical abdominal operation for, 1554—ab
  - of gland of Bartholin, 1473—ab
  - of larynx, laryngectomy for, 1072—O
  - of rectum, excision of, by combined method, 791—ab
  - of stomach, metastasis of, typical localization of, 1650—ab
  - *of* uterus and fibroids, 1460—ab
  - of uterus, behavior of uterus after abdominal operation for, 877—ab
  - of uterus, early diagnosis of, 786—ab
  - *of uterus, metastasis of*, in central nervous system and organs of special sense, 2198—ab
  - primary, origin of, 798—ab
  - principles of treatment of, based on action of antiferments, 797—ab
  - serotherapy *of*, 1488—O
- Carcinomata, how frequently do gastric ulcers become? 260—ab, 353—ab
- Cardiac arrhythmia, 708—ab
- Cardiohepatic angle, 168—ab
- [illegible]onal, and false [illegible] 7—ab
  - [illegible] 549—O
  - as cause of habitual vomiting *of* infants, 1043—ab
  - chronic, treatment of, 1909—ab
- Cardiovascular and *ocular disease*, 212—O
  - disease, ear symptoms of, 1594—O
  - diseases, drug treatment in, 1745—O
  - diseases and venesection, 747—O
  - diseases, treatment of, 1036—ab
  - system in prognosis, 1692—O
- Caries of hyoid bone, 1425—O
- Carlsbad springs, properties of, 1022
- Carrot soup in digestive disturbances *in infants*, 955—ab
- Castor oil in acute appendicitis, 449—ab
- Catalase, occurrence of in tissues and its variations in disease, 2089—ab
  - *quantitative variations in*, clinical significance of, 1784—E
- Cataract extraction 445—ab
  - extraction, opacification of cornea following, 296—O
  - family, genealogic tree of, 2009—ab
  - immature, treatment of, 2191—ab
  - incipient, and age, *association of*, with normal and pathologic blood pressure, 400—O
  - lamellar, rachitic erosions of permanent teeth with, 1130—O
  - senile, desirability of reliable ophthalmoscopic examination while view of fundus is still possible, 204—ab
- Catarrh, middle ear, atrophic, 364—O
- Catheterization and cystoscopy *of* ureters in children, 1912—ab
  - retrograde, in impassible stricture, *167—ab, 258—ab*
- Catheterizations, ureter, in diagnosis and treatment, 1642—ab
- Cats as plague preventers, 1820—ab
  - diphtheria from, 1022
- Cattle, *protection* of, against tuberculosis, 359—ab
  - tubercle bacilli in, and *tuberculosis*, 2096—ab
  - vaccination of, against tuberculosis, 1738—ab
- Caulophyllum, apocodein and sodium succinate, uses of, 692
- Caustics, metallic, to clear cornea of opacity from, 447—ab
- Cauterization, steam, of uterus, 1826—ab
- Cecum, migration of, producing obstruction *of ascending colon*, 353—ab
  - movable, fixation of, to relieve chronic appendicitis, 1383—ab
- Celiotomy, abdominal and vaginal, *indications* and technics, 70—ab
  - abdominal, vs. colpotomy, for intrapelvic abscess, 1354—ab
- Cell division, active, *non-relationship* of, to prognosis in malignant disease, 910—O
- Cellasin, report of Council on Pharmacy and Chemistry on, 931
- Cells of blood, atypical and large mononuclear, 1235—ab
  - kidney in diuresis, histologic appearance, in secretion, of, 1802—ab
  - tumor, resistance of, to freezing, 1701—E
  - vitality of, influence of lightning electric treatment on, 1474—ab
- Cement, dermatitis of workers on, 953—ab
- Centenarian, medical, 139
- Centers, cerebral, for taste and smell and uncinate group of fits, 879—O
- Cerebellar symptoms in hydrocephalus, 1933—O
- Cerebellum and cerebellopontine angle, symptomatology of tumor in, 1825—ab
  - pathology of tumors in; 953—ab
  - tumors of, diagnosis surgical treatment and symptomatology of, 1649—ab
- Cerebral decompression, principle of, 1551—ab
- Cerebrospinal *fluid, diagnostic value* of chemical and bacteriologic examination of, 65—ab
  - fluid, results and prospects of cytologic examination of, 955—ab
- Cerebrospinal Meningitis: See Meningitis.
- Certificate, need of filing one only in *county of* residence, 621
- Cervical glands, softened tuberculosis of, possibility of avoiding scar formation in, 2000—ab
- Cervix-uteri, acute puerperal inflammation *of*, secondary rigidity of external os from, 354—ab
  - *carcinoma of*, radical abdominal operation for, 1554—ab
  - elongation of, complicating. delivery, 2235—ab
  - inflammation in and around, in pregnancy, its treatment, 1195—ab
  - posterior longitudinal incision of, 1742—ab
  - water-bag dilation of, vs. version with placenta prævia, 1827—ab
  - vaginal ablation of cancer of, results of, 1383—ab
- Cesarean cicatrix, rupture of uterus through, 75—ab
- *Cesarean-section*, 167—ab, 1353—ab, 1807—ab
  - abdominal, 734—O
  - abdominal cervical, 732—O
  - abdominal, indications for, 167—ab
  - and spinal anesthesia, 176—ab
  - in dystocia, 1033—ab
  - indications and technic, 438—ab
  - indications for, 532—ab, 632—ab, (2090)—ab
  - *influence of asepsis and infection* on technic of, 1648—ab
  - necessitated by previous ventro-fixation, 71—ab
  - superiority of primary over secondary, 1816—ab
  - suprasymphyseal, 953—ab
  - to reduce danger of natural staining with placenta prævia, 1651—ab
  - *transperitoneal, by cervico*-mesouterine longitudinal incision, 1648—ab
  - vaginal, in general practice, 264—ab
  - vs. sections of pelvis in mechanical obstructions to childbirth, 707—ab
- Cestode larva, prolifefating, in man in Florida, 1110—ab
- Chair, adjustable canvas, as aid to Murphy treatment of diffuse sup*purative peritonitis*, 1133—O
- Charitable corporations, liability of, for acts of agents or servants, 2232
- Charities, public, future museum of, 1523
- Charlatan factories, plan for destroying, 1713—C
- Charlatans in German courts, sentences for, 55
- Cheek, cancer of, involving jaw, operation in, 1730—ab
- Checks and commissures, leukoplakia *of, semiologic importance of*, 445-ab
- Cheilitis exfoliativa, 1684—O
- Chemistry and physics, relation of physiology to, 1978—E
  - of anaphylaxis, 2032—ab
  - of stomach, changes in, after gastroenterostomy. 1910—ab
  - of tubercle *bacillus*, 1418—ab
  - prize, Cannizzaro, 138
- Chemists, manufacturing, are physicians justified in taking pay from, for scientific tests of pharma*ceutical preparations?* 1648—ab, 2011—ab
- Chemotherapy, experimental, 1976—E
- Chest: See also Thorax.
  - irrigations of, in empyema, blood-pressure lowering reflexes from, 1816—ab
  - troubles and asthma, outdoor sleeping in, 354—ab
  - wall and lung, operative mobilization of, in unilateral pulmonary phthisis, 1116—ab
- Chicago Medical Society and its active work, 56—ab
- Child: See also Children.
  - *after age of two, 1903—ab*
  - aged 4½ months, miliary tuberculosis in, 1367—ab
  - aphasia complicating typhoid in, 1185—ab
  - *conditions* that require removal of, from breast, 167—ab, 441—ab
  - double suppurative parotitis, com*plicating typhoid in*, 2216—O
  - eczematous, infection of, from vaccinated brother, 1740—ab
  - healthy, at term, with extrauterine pregnancy, 712—ab
  - living, advanced extrauterine pregnancy with, 1355—ab
  - *school, 1815—ab*
  - School, Inspection of: See Medical Inspection
  - sick, 1904—ab
  - transmission of infection from puerpera to, 632—ab
  - unborn, and mother injured, rights to damages, 942
  - with adenoids and impaired hearing, responsibility of physician for future of, 1374—ab
- Child-bearing age, ventrosuspension of uterus during, 707—ab
- Childbirth, advantages of institutional care for, 2099—ab
  - allowing *women to* get up early after, 1195—ab
  - and pregnancy with congenital mitral stenosis, 712—ab
  - mechanical obstructions to, Cesar*ean section vs. sections* of pelvis in, 707—ab
  - retroversion after, prevention *of*, 2189—ab
  - with contracted pelvis, 538—ab
  - with *double uterus, 87—ab*
- Childhood, acute nephritis in, unusual type of, 867—ab
  - and infancy, care of mouth during, 2186—ab
  - and infancy, tuberculosis in, diagnosis of, by skin inoculation of diluted tuberculin, 1627—ab
  - danger from infection during, and overcoming predisposition to tuberculosis, 1627—ab
  - diseases in, general *symptomatology* of, 2189—ab
  - general paralysis in, 1946—O
  - hydrotherapy in, 257—ab
  - intermittent albuminuria of, and hereditary tuberculosis, 1368—ab
  - obscure fever in, 347—ab, *869—ab*
  - overcoming predisposition to *tuberculosis* and danger from *infection during, 2185—ab*
  - pneumonia in, 672—ab
  - problems of, 249—ab, 710—ab
  - symtomatology of diseases of, 1454—ab
  - syphilis in, 438—ab
  - tuberculosis in, frequency of, 1626—ab
  - tuberculosis in, hygienic and climatic prophylaxis of, *1627—ab*
  - tumors of breast in, *2090—ab*
- Children, abuse of alcohol *in*, diseases of, *622—ab*
  - acetonemia, periodic, in, 716—ab
  - amblyopia, little known *type of*, in, 627—ab
  - and adults, defensive *arrangements* of body in, *1281—ab*
  - and atrophic infants, plan of dealing with, 867—ab
  - anomalous pyrexia in, 1252—ab
  - apparently undescribed affection *of* certain bones *in*, 1474—ab
  - appendicitis in, acute, 1372—ab
  - *asthma in, etiology of, 715*—ab
  - blood, findings in periodical acetonemia in, *1289—ab*
  - brain tumors *in*, 82—ab

Children, bronchial asthma in, 874—ab
  colored, of Jamaica, with reference to rickets and Mongolian spots, 867—ab
  comparative dosage in, 1454—ab, 2189—ab
  cystoscopy and catheterization of ureters in, 1912—ab
  diarrhea from gastric achylia in, 2099—ab
  diet and hygiene of 2454 ab 2189 ab
  diseases of nose in, from general medical standpoint, 1455—ab
  empyema in, 172—ab
  epileptic and feeble minded, 1469—ab
  feeble minded certain types of, and their significance, 2007—ab
  feeble minded deformities in, 343 ab
  female, vaccine and serum therapy of gonorrhea in, 1301—O
  female, vaccine treatment of gonorrhea in, 169—ab, 1298—O
  functional kidney tests in, 2191—ab
  growth of, thymus treatment of disturbances in, 450—ab
  hourglass stomach in 1472—ab
  hydronephrosis in, its treatment, 1733—ab
  hyperpyrexia in, 1920—O
  indigent, with tuberculous bones and joints, how Minnesota cares for, 1541—ab
  joint affections in 620—ab
  malaria in, 916—O
  megacolon in, 265—ab
  melancholia in, 1733—ab
  meningitis acute tuberculous, in, diagnostic value of lumbar puncture, 1627—ab
  nephritis in, acute, unusual type of, 156—ab
  nervousness in, and their diet, 1560—ab
  nutrition of, practical application of food values in, 1186—ab
  obstructive abnormalities of oronasopharyngeal spaces in, a predisposing factor to tuberculosis, 1367—ab
  of consumptives, 1366—ab, 1413—O
  of Philadelphia schools, defective vision in, 1533
  of school age pulmonary tuberculosis in, 1112—ab
  of tuberculous parents, pulmonary tuberculosis in, 1260—ab
  persistent loss of appetite in, curative effect of rest in, 1917—O
  polydipsia in, 2060—ab
  prephysical signs of tuberculosis in, 1752—O
  protracted subfebrile states in, 515—ab
  psoriasis in, 2061—ab
  psychoses in, 84—ab
  rheumatism, nodular, in, 178—ab
  rheumatism in, peculiarities of, symptomatology of, 708—ab
  school breakfastless 1604—E
  school, examination of eyes and ears of, 250—ab
  school, hygiene of eye in 623—ab
  school means to promote health of 942—ab
  school medical inspection of, 640—ab, 1167
  school physical defects of, causing subnormal and mentally deficient pupils, 625—ab
  school, teeth of, 1604—E
  septic arteritis and aneurism in, 87—ab
  skin diseases in, 1973—ab
  skin reaction to tuberculin in, 1627—ab
  small treatment of hydrocephalus in 1909—ab
  speech disturbances in, general pathology and symptomatology of 798—ab
  tendency to spasm in, and lime metabolism, 874—ab
  toxic arthritis of hip in diagnosis and treatment, 2090—ab
  tuberculin reactions in, comparative diagnostic importance of, 1741—ab
  tuberculosis in and infectious disease 1366—ab
  tuberculosis in and tuberculosis of lymphatic glands, 1366—ab
  tuberculosis in, pathology of, 76—ab
  tuberculosis in, primary localization of 1368—ab
  tuberculosis in recent diagnostic methods in 157—ab
  tuberculosis in transmission and progress of through family association 1366—ab
  tuberculosis latent endothoracal glandular in, diagnosis and specific treatment in, 1473—ab
Children tuberculosis of pericardium in, 1368—ab
  tuberculosis, urinary, in, diagnosis of, 1821—ab
  tuberculous disease of bones, joints and glands in, seashore and fresh air treatment of, 1628—ab
  tuberculous, infrequency of hemoptysis in, 915—ab
  tumors in bladder in, 1912—ab
  under fifteen, pulmonary tuberculosis in prognosis of, 1628—ab
  under twelve, pyopericardium in, 951—ab
  young and infants, diabetes in, 1376—ab
  young, anemia in 1912—ab
  young, pneumonia in, ambulatory treatment of, 286—O
China, hygiene in 796—ab
  plague in, 49
Chinn, Jack P., vs Foster Milburn Company, history of case of, 1185—ab
Chloral, 1335
Chlorids excess of, in lymph, 350—ab
Chlorin, calomel with, 1885, 2178
  action of administered by different channels, 711—ab
  and scopolamin morphin anesthesia, 1377—ab, 1468—ab
Chloroform anesthesia, 785—ab, 1578—O
  anesthesia, acute toxemia after, 785—ab
  anesthesia, towel method of, 1043—ab
  in obstetrics, 332—ab
  necrosis of liver, 1462—ab
  unnecessarily administered, responsibility for death from, 1900—ab
Chloroma and acute lymphatic leukemia, pathology of, 262—ab
Cholecystitis 261—ab
  acute, early operation in, 84—ab
  typhoid and its treatment, 263—ab
Cholecystomy, drainage following, 784—ab
Cholelithiasis, pathogenesis of, 713—ab
  soap concretions in, 647—O
Cholera, British precautions against, 1244
  French preventive measure against, 1245
  importation of, prophylaxis against, 1243
  in India, 234
  in Philippines, 533—ab, 1021, 1160—E
  in Russia, 610—E, 1092, 1160—E, 1166, 1246, 1709, 1978—E
  in Russia, China and Philippines, 1160—E
  infantum, 73—ab
  precautions against, in Europe, 1251—ab 1345
  saline transfusion in, value of taking specific gravity of blood during, 2191—ab
  winter, 1499—O
Cholesterin in pernicious anemia, 2154—O, 2177
  neutralizing action of, on tetanus toxin, 147—ab
Chondrotomy for apical tuberculosis, 449—ab, 1911—ab
Chorea, 1283—ab, 1632—ab
  acute, etiology, pathology and treatment of, 523—ab
  during pregnancy, 263—ab
  intraspinal injections of magnesium sulphate in, 2192—ab
  mental state in, 533—ab
  nasopharyngeal origin of, 2192—ab
  rheumatism as after affection of, 715—ab
Chorioepithelioma, 1727—ab
  in man, 876—ab
  or syncytioma of placenta, 167—ab
Chorioid, sarcoma of, 1188—ab
Christian Science, books on, 778
Christmas stamps for tuberculosis propaganda, 1720
Chromatic aberration, 1886
Chromium sulphate, medicinal action of, 1885
Chromocystoscopy, value of, in diagnosis of kidney disease, 2005—ab
Church, cooperation of, with medicine, 1431—E
Chyluria, 540—ab
Cincinnati colleges merge, 152
Circulation, part of, cut off advantages of general anesthesia with, 1876—ab
  recent studies on, and their importance to practice of medicine, 473—O
Circulatory disturbances and venesection, 538—ab
  disturbances and examination of blood in peripheral vessels, 1117—ab
Circulatory disturbances in diphtheria, 2121—O
  system, mechanical treatment of diseases of, especially the Zander methods, 1372—ab
Circumcision, simple method of, in new born, 160—ab
Cirrhosis of liver, anemia of, simulating pernicious type, 1143—O
  development of, 446—ab
  following lymphatic leukemia, 539—ab
  intralobular, produced by protozoal parasite of kala azar, 1038—ab
  with epithelioma of liver, 1384—ab
Claim of specialist on estate of fatally injured persons, 2000
Classification of diseases, international, as applied to morbidity returns, 2089—ab
  of diseases, international, its advantages, defects and deficiencies, 1371—ab
Climate, entire change of, and comparative importance of treatment in sanatoria near at hand, 1173—ab, 1251—ab, 2088—ab
  is it changing? 2006—ab
Clinician, pathologist and layman, correlation of, 191—O
Coal tar in chronic eczema, 497—O, 1024—C
Cocain and opium, insanity caused by acute and chronic intoxications with, 97—O
Cognition and sensism, 1552—ab
Cold and mechanical exercise, influence of, on sugar excretion in phloridzin glycosuria 350—ab
Colds prevention of, 1895—ab
Colectomy for cancer of large intestine, 629—ab
Colic, 1188—ab
  abdominal, 2100—ab
Colitis chronic ulcerative, 264—ab
  mucous, and appendicitis and pericolitis 536—ab
Colitoxemia and coliuria, 2182—ab
Coliuria and colitoxemia, 2182—ab
Collapse, sudden following injection of diphtheria antitoxin, 38—O, 255—ab, 512—C
College, Medical, see Medical College
Colleges, dental, pathology in, 30—O
Collodion dressings, intranasal, 1152—O
Colocynth, 130
Colon and stomach, pathology of fistula between, 448—ab
  ascending, migration of cecum producing obstruction of 353—ab
  congenital idiopathic dilatation of, 352—ab
  mucomembranous non inflammatory affections of, 89—ab
Color permanent of muscles, vessels, nerves and organs preservation of anatomic dissections with, 642—O
Colorado Dr McCormack in 1249
  medical news, 324, 505, 680, 1087, 1161, 1517, 1703
  state board April report, 64
  state board July report, 1100
Colostomy by new method with attempt at sphincteric control, 2093—ab
Colotomy, Brewis's appliance for use after 1820—ab
Colpotomy vs abdominal celiotomy, for intrapelvic abscess 1354—ab
Coma diabetic, and diabetic acidosis, treatment of, 265—ab
Commerce and works of art, chemistry and effects of bituminous coal smoke on, 1815—ab
Commissions, giving of, and division of fees 1536—ab
Communications, privileged and physicians 1170
Compensation and contracts for services 1637—ab
Complement fixation in serodiagnosis of inherited syphilis, scarlet fever and other infectious diseases, 1911—ab
  fixation in syphilis 2096—ab
  fixation specificity of, 1786—E, 1958—C
Compressed air illness, 262—ab
  influence of fatness on susceptibility to, 2190—ab
  prevention of, 760—E
Compression therapy in gynecology, 149
Conductors railroad power of to employ surgeons in emergency case, 1814
Confederation of Reciprocating Licensing and Examining Board meeting of, 1273—ab
Confidences of the gullible and letter broker 2164—E
Conjunctivitis See also Eye
  acute contagious, 1455—ab
Conjunctivitis, chronic, etiology and treatment of 447—ab
  Samoan, investigation of, 2187—ab
Connecticut medical news, 46, 1161, 1605, 2061 2165
  state board eclectic July report, 1028
  state board July report, 1100
  tuberculosis in, 622—ab
Consanguinity and ocular disease, 1187—ab
Consciousness, seat of, 1893—ab
Constipation, chronic, surgical treatment of, 1272—ab
  chronic, treatment of, 1651—ab
  habitual, sawdust bread in, 539—ab
Consumption See Tuberculosis
  cures, alleged, 2229
Consumptive, importance of proper advice to, 958—ab
  unteachable, 1785—E
Consumptives, children of, 1366—ab, 1413—O
  construction of hospitals for, 1174 ab
  day camp for, 1813—ab
  do they sleep on side of their lesion or not? 1191—ab
  exploiting of, 134—E
  hyperalimentation of, dangers of, 1554—ab
  incurable, home for in Germany, 1614
  night camp for, 680—E
  poor, isolation of, in general hospitals, 1895—ab
  treatment of, in homes and places other than sanatoria, 1896—ab
Contacts, typhoid due to, 2088—ab
Contagion, human, as factor in infantile tuberculosis, 1367—ab
Continence, sexual, is it compatible with health? 259—ab
Contract and lodge practice, 434—ab
  practice, 858—C
  system, Providence Court of Foresters abolishes, 425
Contracture, ischemic, of muscles and plaster case, 2195—ab
Contracts and compensation for services, 1637—ab
Conus medullaris affections, 1192—ab
Convulsions and rigidity in apoplectiform hemiplegia, and hemorrhage into ventricles, 216—O
  lime in origin and treatment of, 1743—ab
  localized epileptic, without gross lesion of cortex, 163—ab
  treatment of, 1560—ab
Cooking stimulants used in, 1185—ab
Corn oil in pulmonary tuberculosis, 39—O
Cord, umbilical, ligation of, 917—O
Cords, vocal, laryngeal crises and paresis of abductors of, 815—O
Cornea See also Eye
  injury of, 450—ab
  opacification of following cataract extraction, 296—O
  to clear opacity from metallic caustics, 447—ab
  tuberculosis of, 1255—ab
  zonular opacity of, 220—O
Coroner, London, and the profession, 139
  London, in operations, 45—E, 50
Corporations not liable for medical services rendered with approval of president, 787
  other than hospitals, prohibited from advertising to practice medicine, 2184—ab
Corpus callosum, puncture of, in hydrocephalus epilepsy and tumors, 1042—ab
  luteum, internal secretion of, and reciprocal relations of ovary and pancreas, 1742—ab
Corset for movable kidney and associated visceral ptoses, 1568—O
Coryza, paroxysmal and intractable hay fever, resection of nasal nerve for, 171—ab
Costal cartilages, progressive necrosis of, 2095—ab
Cough liver, 1562—ab
Council on Pharmacy and Chemistry, 1631—ab
  broader aims of, 52—O, 140—O, 237—O, 330—O, 421—O, 511—O, 614—O, 687—O
  constructive work of, 614—O
  critics of, 511—O
  endorsed, 341—ab
  1908 meeting of, 1078
  report of, on cellasin, 931
  report of, on diastase ferments, 135—E 140, 1025
  report of, on ingluvin, 142
  report of, on sulphite in adnephrin solution, 1574
  value of and examination of diastase ferments 125—E
Country surgeon, 754—ab

County secretaries meet in Michigan 2175—ab
society on contract practice, 140
society uses local newspaper, 144
Cow, actinomycotic, safety of milk from, 1717
Cow-pea, hydrolysis of vignin of, 1108—ab
Cowpox, outbreak of, 1189—ab
Cows with udder affections, milk from, 1743—ab
Coxa valga, 711—ab
Craniologic investigation by Egyptian [illegible] Royal College of [illegible] for, 259—ab
spiral osteotome driven by surgical engine in, 1150—O
Creatin and creatinin, excretion of, in health and disease, 1817—ab
Creatinin, excretion of, in lying-in women, 263—ab
Cremation in Prussia, 51
Cresco flour and gluten flour, 932
Cretinism, endemic, in Chitral and Gilget valleys, 1906—ab
Crime and imbecility, 534—ab
and incarcerated criminal, relation of tuberculosis to, 1726—ab
Criminal, incarcerated, relation of tuberculosis to, 1726—ab
procedure, codes of, of European Countries, 2001—ab
Cripples, care of, 1024
Critic, courteous, 1616—O
Cross-examination, physician suing services is subject to, 165
prior treatment subject for, 836—ab
Croton oil, 224
Cuba, mesquitoes in, destruction of, 417—ab
Cupping and passive hyperemia, in acute suppurative infections by, 1640—ab
Cure, work, 1485—O
Curette, and treatment of abortion, 1117—ab
sharp uterine, abuse of, 1177—ab
Currency, soiled, 763—E
Curriculum, standard, work for, in medical colleges, 1886
Curvature, lateral, physical therapy in, 1641—ab
Cyanosis, polycythemia with, 1777—O
Cyst hematoma, postoperative menstrual, 81—ab
milk-secreting, in breast, 1744—ab
Cystitis, 865—ab, 1096, 2184—ab
suppurative, 1800—ab
Cystoscopy and catheterization of ureters in children, 1912—ab
and indications and prognosis *for* abdominal cancer operations? 877—ab
Cystostomy, suprapubic, in septic case, *perineal prostatectomy* preceded by, 178—ab
Cysts, chyle, of mesentery, 1731—ab
dermoid ovarian, *of* unusual size, 2218—O
gas, of intestine, 1291—O
hydatid, of spleen 873—ab
hydatid, prophylaxis of, 777—ab
near bladder and prostate, 1471—ab
Cytodiagnosis, technic and value of, in differentiating tuberculous meningitis from epidemic variety, 1819—ab
Cytologic examination of cerebrospinal fluid, 955—ab
findings in ocular tuberculin reaction, 264—ab

D

Damage on account of injury in railroad accident, duty of injured person to make it as light as possible, 1185—ab
Damages for use of alleged testimonial 1086—E
recoverable, for miscarriage caused by injury, 2087
where mother and unborn child are injured, rights to, 942
Darwinism and diabetes, 706—ab
Daylight bill, British, 324—E, 328
Deaf, lip reading for, partially, 722—ab
mutes, application of Barany's tests to, 2007—ab
Deafness, catarrhal, treatment of, 1890—ab
chronic middle-ear, 793—ab
dry catarrhal, nasal analgesia as prognostic symptom in, 750—O
Death after fall against timbers and what constitutes infection, 705—ab
after tapping ascites, 1555—ab
apparent, resuscitation in, by oxygen and intubation, 2198—ab
causes of, immediate and proximate, 529
Death from *malignant* endocarditis treated with colloidal silver, 1510—O
laparotomies without, in country practice, 1374—ab
life insurance and certificates of causes of, 1196—ab
myocardial vs. endocardial changes as cause of, 1177—ab
responsibility for, from mistakes and chloroform unnecessarily administered, 1900—ab
sudden, angioneurotic edema as familial cause of, 2005—ab
sudden, cause of, following intravenous injection of blood corpuscles of foreign species, 1903—ab
sudden, due to pleural adhesions, 1897—ab
sudden, in dementia præcox, 515—ab
Deaths after spinal stovain anesthesia, 1190—ab
prevention of, under anesthetics, 1378—ab
Debility, pseudophosphaturia as sign of, 1651—ab
Debts which medical science owes *to surgery*, 352—ab
Defalcification of pregnancy, protracted, 81—ab
Decompression, cerebral, *principle of*, 1551—ab
subtemporal, *in* chronic nephritis with uremia, and neuroretinal lesion, 1902—ab
Deep-seated processes, x-ray in, technic for, 264—ab
Defectives, mental, in prison, 354—ab
Defensive arrangements of body in children and adults, 353—ab, 1281—ab
Deformities of infantile paralysis, treatment of, 1642—ab
plaster-of-Paris in, 67—ab, 1465—ab
Degeneration, adipose-genital, removal of hypophysis for, 877—ab
arterial, in rabbit, 1056—O
Degeneracy, anomalies of stigmata of, 707—ab
Digestive system, physiology of, 2004—ab
Delaware medical news, 1606
state board June report, 426
Delirium tremens, artificial auditory hallucinations in, 1559—ab
Delivery after vaginofixation, management of, 1117—ab
by Mueller's technic, 1824—ab
by uterus-abdominal wall fistula, 87—ab
complicated by elongation of cervix uteri, 2235—ab
danger with placenta prævia of natural *straining* to aid, and extraperitoneal Cesarean section to reduce, 1651—ab
obstructed, intrapelvic vs. abdominal method of dealing with, 70—ab, 623—ab
painless, under scopolamin-morphin, 175—ab
premature, indication of, and pubiotomy, in home, 264—ab
under scopolamin-morphin anesthesia, 1827—ab
Delusions, insane, and demand of change in declaration as to monomania, 1999
Dementia-præcox, 34—O, 2189—ab
and confusional insanity, 164, 1553—ab
and epilepsy, diagnosis of, 163—ab
early symptoms of, 531—ab
etiology of, 2233—ab
sudden death in, 515—ab
Dengue, prevention of, 1038—ab
Denslow *cure? for tabes*, 1339—E
Dental education, 275—O
Dentistry, state reciprocity in licenses to practice, 563—O
Depopulation in France, 1346
Dermatitis due to irritating effect of metol, 1106—ab
exfoliativa, large doses of quinin in, 1188—ab
following use of walnut juice hair dye, 1035—ab
occupation, 1821—ab
of workers on cement, 953—ab
universal, of children at breast, 536—ab
Dermatology, carbon dioxid snow in, 356—ab, 1037—ab
Dermolysis—undescribed *dissolution of* skin, 710—ab
Desquamation *from* sweating, 1328—O
Development, *mnemic* theory of, 1086—E
Diabetes-mellitus and Darwinism, 706—ab
and pregnancy, 1113—ab
conjugal, 530—ab
cresco flour and gluten flour in, 932
Diabetes-mellitus, gangrene of, amputation in, 789—ab
experimental, research on, 954—ab
in acromegaly, and hypophysis glycosuria, 1827—ab
in infants and young children, 1376—ab
oatmeal in, 267—ab, 1036—ab
origin of, 1470—ab
pancreatic and gallstones, 1724—ab, 2234—ab
pancreatic, and parabiosis, 84—ab
pathology and treatment of, 2189—ab, 2235—ab
progress in knowledge of, 1911—ab
Diabetic acidosis and treatment of diabetic coma, 265—ab
acidosis, underlying chemical principles of, 74—ab
coma, treatment of, and diabetic acidosis, 265—ab
foods, Connecticut Agricultural Experiment Station, report on, 1168
foods, Jireh, 1799
prostatic disease in, 258—ab
regime, 1555—ab
Diabetics, effect of operations on, *169—ab*
flour for, 1799
Diagnosis, abdominal, as tested by operation, 624—ab
differential, between complete and incomplete uretero-vaginal fistula, 709—ab
difficulties of, 1190—ab
necessity for, as preliminary to gynecologic operations, 1723—ab
value of reflexes in, 1037—ab
Diaphanoscopy and direct visual inspection of stomach and duodenum, 1476—ab
and gastroduodenoscopy, 713—ab
Diaphragm, injuries to, importance of early diagnosis and prompt surgical treatment of, 709—ab
neurosis of, 1741—ab
Diarrhea, choleriform, of cold weather, 1499—O
chronic dyspeptic, and chronic gastrointestinal dyspepsia, 1559—ab
chronic, local and surgical treatment, 790—ab
compensatory, 467—O
epidemic *infantile*, 1189—ab
epidemic, organism in, 870—ab
from gastric achylia in children, 2099—ab
in exophthalmic goiter, 266—ab
in infants, character of stools, and intestinal findings in, 1306—O
on Boston floating hospital, 1031—ab
Diastase ferments, report of the Council on Pharmacy and Chemistry on, 135—E, 140, 1025
in cat's saliva, 350—ab
Diastasis of left temporo-parietal articulation, and fracture of base of skull, 1818—ab
Diathetic states, 1461—ab
Diet and digestion, 784—ab, 1110—ab
and hygiene of young children, 1454—ab, 2189—ab
and nervousness in children, 1560—ab
antidiabetic, secretion from pancreas fistula and influence on it of, 1380—ab
ash-free, and salt metabolism, 727—O
ash-free, experiments with, 1462—ab
in tuberculosis, 1255—ab
meat in, 59—ab
milk, exclusive, in obesity, 876—ab
milk-free, in typhoid, 73—ab
milk-vegetable, in pernicious anemia, 1744—ab
purin-free, limitations of, 1906—ab
Dietetic and injection method of treating typhoid, 792—ab
treatment of gastric ulcer, 265—ab
Dietetics as therapeutic measure, 1375—ab
Digestion and diet, 784—ab, 1110—ab
and nutrition, characteristics of, in early infancy, 1285—ab
disturbances of, in infants, carrot soup for, 955—ab
infantile, 2125—O
Digestive disturbances *in* rachitis, 2192—ab
ferments, 2218
system, physiology of, 524—ab
Tract: See Gastrointestinal Tract
Digitalin tablets. physiologic assay of, 2130—O
Digitalis, indications and contraindications for use of, 1552—ab
in pneumonia, 2214—O
treatment, chronic, influence of, on heart, 1741—ab
use and abuse of, 439—ab
Diphtheria antitoxin, collapse *following* injection of, 512—C
antitoxin, 631—ab, 1472—ab
Diphtheria, antitoxin in, large doses, 918—O
antitoxin, skin reaction to, 1510—O
antitoxin, untoward results from, 1154—O
antitoxin, value of, 236
circulatory disturbances in, 2121—O
cultures, atypical, result of inoculation and reincubation of, 941-ab
from cats, 1022
genital infection in, simulating puerperal fever, 965—O
group of bacilli, variability of, 2003—ab
leucocytes in, before and after administration of antitoxin, 1186—ab
laryngeal, 342—ab
local treatment of, 1475—ab
mortality and antitoxin, 928—C
pyocyanase in, 1042—ab, 1288—ab
treatment of paralysis of, 634—ab
Diphtheritic paralysis treated by serum of Roux, 626—ab
Diplegia and motor aphasia, complicating idiopathic epilepsy, 1778—O
Diploma, having one, does not make licensed physician, 1637—ab
mills in India, 1718
Disc, choked, palliative trephining for, 1473—ab
Disease, *and Mendelism*, 147—ab
contagious, municipal hospital for, *and medical and financial importance* to the community, 2091—ab
economic cost of, 777—ab
in children and adults, defensive arrangements of body, 353—ab, 1284—ab
general, suggestions of pupil in, 1902—ab
medicinal treatment of, sufficiency of official drugs and preparations in, 1477—O
non-medical treatment of, 1630—ab
organic of nervous system, early diagnosis of, 2190—ab
prevention of, 249—ab
Diseases, connection between, 955—ab
contagious, lantern slides of, 692, 1619
early clinical types of, 1555—ab
epidemic, checking of, *1702—E*
health-producing, 1517—E
in childhood, general *symptomatology* of, 2189—ab
infectious, and *milk*, 1491—O
infectious, bacilli carriers and transmission of, 1038—ab
insect-borne, 1625—ab
internal, and *female genitalia*, 1550—ab
international classification of, advantages, defects and deficiencies, 1371—ab
of stomach, oil in, 2009—ab
prevention of, necessity of education of people in, *2079—ab*
tropical, and Mississippi Valley, 1634—ab, 2091—ab
Disinfection of books, 1108—ab
of room, new and efficient method of, 438—ab
Dislocation, atlo-occipital, 74—ab
and congenital muscular rigidity of hip joint, 356—ab
of hip, congenital, and its treatment, 260—ab
of hip, congenital, anatomy of, 343—ab
of hip, dorsal, reduction of, 1610—ab
recurrent, of ulnar nerve, 1372—ab
Dislocations and fractures, treatment of, 1651—ab
subsequent, *admissible* evidence concerning and responsibility for, 1547—ab
Dispensaries, tuberculosis, 1209—ab
Dispensing by physicians, 1632—ab
Dissections, anatomic, preservation of, with permanent color of muscles, vessels, nerves and organs, 642—O
District of Columbia medical news, 46, 135, 324, 414, 505, 610, 764, 925, 1019, 1061, 1432, 1606
Diuresis, cells of kidney in, histologic appearance in *secretion of*, 1802—ab
stimulating, 1650—ab
Diverticulitis, acute, of sigmoid, with operation *before* rupture, 513—O
and diverticulosis, 793—ab
Diverticulosis and diverticulitis, 793—ab
Diverticulum, Meckel's, inflammation of, *simulating* appendicitis, 2069—O
of esophagus, 785—ab
Dock, George, goes to Tulane, 223
Dog bites, 1186—ab

Dog, successful infection of, with cultures of Leishmania infantum, 1493—O
Dogs lymphosarcoma of, 158—ab
Dosage, comparative, in children, 1451—ab, 2189—ab
Drainage, 250—ab, 1552—ab
and irrigation of bladder, prolonged, after prostatectomy, device for, 948—ab
following cholecystotomy, 784—ab
of ankle joints, method of, 1188—ab
plea for, in abdominal and pelvic operations, 2004—ab
rectal, in pelvic abscess, 353—ab
vaginal or suprapubic, in acute diffuse peritonitis in women? 1551—ab
Drains and tents, intrauterine, 716—ab
Drop, grain to, 1526
Dropsy, epidemic, in insane asylum, 1737—ab
normal pregnancy and kidney of pregnancy, pathogenesis of eclampsia and, 1647—ab
Drowning resuscitation after apparent, 779
Drug store therapeutics, 421—O
Drug stores, optometry in, 1998
treatment in cardiovascular conditions, 1745—O
treatment vs osteopathic, 2135—O
Druggist See Pharmacist
Drugs, action and elimination of, injected intravenously, 540—ab
action of, on blood serum, 356—ab
and preparations, official, sufficiency of, in medicinal treatment of disease 1477—O
exceptions to rules in administration of, 524—ab
individual, action of, obscured by mixtures, 791—ab
injected temporary localization of, 796—ab
interstate traffic in, bills regulating, 689—O
Drunkards, habitual, constitutionality of law providing for detention and treatment of, as persons of unsound mind, 1814
Drunkenness, pathologic, 1289—ab
Dublin letter, 855
Duct lachrymonasal, imperforation of in new born, 188—O
nasal, treatment of strictures of, with lead styles, 1207—O
Dulness paravertebral area of, in pleurisy, 1472—ab
paravertebral triangle of, 1822—ab
paravertebral triangle of, in pregnancy, 1902—ab
Duodenal and gastric ulcer, 260—ab
and gastric ulcer, acute perforating, 2090—ab
and gastric ulcer, round, experimental study of, 533—ab
and gastric ulcer, secondary to wounds of bladder, 260—ab
ulcer, 556—O, 795—ab
ulcer, before age of ten, 2194—ab
ulcer, diagnosis of, 2001—ab
ulcer, diagnosis and treatment, 172—ab
ulcer, prominent symptoms in diagnosis of, 651—O
Duodenitis, phlegmonous, 1474—ab
Duodenum and stomach, benign diseases of, late results of operations for, 260—ab
and stomach, direct visual inspection of, and diaphanoscopy, 1476 ab
and stomach, round ulcer of, 533—ab
occlusion of, 1113—ab
occlusion of, postoperative, 356—ab
Dusty trades in Sheffield, mortality in 1038—ab
Dwarf growth and simple mitral stenosis, 873—ab
Dying declarations in abortion cases, 1638—ab
Dysentery, amebic, appendicostomy in, 2 0—ab
amebic, medical vs surgical treatment of, 2140—O
amebic, treatment of, 692
amebic, treatment of at Panama, 2234—ab
bacilli carrier, 1259—ab
is it sole cause of tropical liver abscess? 1821—ab
santonin in 1469—ab
tropical 573—ab
with intestinal amebas but without hepatic abscess 1820—ab
Dysmenorrhea and amenorrhea, cured by tuberculin treatment, 2012—ab
as result of traction on peritoneum, [illegible]—ab
etiology and treatment of, 716—ab
membranous, 1279—ab
nasal 244—ab
Dysmenorrhea, treated by forcible dilatation of cervical canal and application of Wylie drain, 169—ab
Dyspepsia, chronic gastrointestinal, and chronic dyspeptic diarrhea, 1559—ab
from intestinal fermentation, 174—ab
Dyspeptics, thin, physiologic loss of weight in, 1285—ab
Dyspnea patients x ray inspection of thorax in, 874—ab
Dystocia See also Labor
choice of operations in, 1033—ab
management of labor to prevent, 1279—ab
mechanical, intrapelvic vs abdominal treatment of, 530—ab
Dystrophy and syringomyelia, 1913—ab
progressive infantile, of muscles, congenital muscular defects and infantile disintegration of nuclei, 1115—ab

DEATHS.

Acuff, John W, 2179
Adams, Elisha B, 862
Adams, Frank Lemuel, 1992
Adams, James Osgood, 1722
Albrecht, F, 244
Albright, Titus, 938
Alexander, George W., 428
Alford, M D, 2179
Allen, Charles E, 1622
Allen, Cyrus Hamilton, 1102
Allen, Ethan, 1030
Allen, James T, 1804
Allen, Justin, 1804
Allison, Lucius Cary, 2079
Alpers, Henry F, 783
Alston, Bennett Perry, 1804
Ames, Azel, 1803
Anderson, James, 1352
Anderson, Lewis C, 694
Anderson, Turner, 1442
Andrews, William H, 1531
Angle, Henry Frederick, 2079
Apperson, John S, 783
Applewhite, Rufus Revill, 1992
Archer, Ira Benjamin, 862
Arkley, Alexander Thayer, 1275
Armstrong, John Albert, 783
Armstrong, William Greer, 1029
Arnold, Luther Stowell, 937
Ashby, Henry, 618
Ashton, Benjamin Douty, 861
Atkinson, Benjamin M, 1992
Aulguire, John A, 618
Austin, Abiel S, 1622
Avery, Alida C, 1275
Babbitt, George Edward, 2079
Bacon, Walter A, 2079
Bailey, Charles E, 1102
Bailey, Charles Williams, 2079
Bailey, George, 938
Baker, Frank Russell, 2231
Baker, J I, 1030
Baker, Walter C, 521
Baldwin, Reuben Camp, 2079
Ball, Alonzo Brayton, 1721
Ballenger, Thomas Landrum, 1722
Ballou, Edward H, 520
Banks, Morgan Reese, 521
Banks, Sir John Thomas, 618
Barksdale, John A, 1804
Barnard, Harold Leslie, 938
Barnes, Lewis, 337
Bartholomew, Haywood B, 937
Barton, William Gordon, 1443
Bartscher, Hugo W, 1351
Bass, Robert E, 521
Bates, James Harvey, 2079
Bates, Joseph Anson, 1722
Baum, Enoch A, 937
Beachley, Nathaniel Jacob, 520
Beadles, Marshal, 1102
Bean, George H, 1803
Bechtel, David K, 1889
Bechtold, Adolph G, 1181
Beck, Alexander W, 1530
Becket, Alfred David, 428
Beebe, DeWitt Clinton, 427
Belknap, Simeon, 427
Bell, Josephine Grant, 1722
Bell, Thadeus Patton, 1722
Benbow, T A, 2079
Benton, George W, 2232
Berger, Tobias, 2231
Berry, James Albert, 1351
Best, Austin, 1443
Best, William E, 520
Bial, M, 155
Bickett, William W, 1622
Bicknell, George H, 2179
Bidwell, Edwin T, 2231
Bille, Waldemar Frederick, 1721
Bishop, Wallace Reverdy, 694
Bizzell, Benjamin W, 337
Black, Daniel T, 1030
Black, Joseph F, 1532
Black, L M, 1180
Blackburn, Joel Simpson 783
Blackmore, Elliott Lee, 1889
Blacknall, Rufus P, 938
Blackwell, Lewis S, 1993
Blair, John J, 1992
Blaisdell, Robert Henry, 1029
Blane, Henry, 861
Bliss, William Y, 1029
Block, Mary, 1721
Boone, George P, 1889
Borden, John Harvey, 694
Bornemann, John S, 1181
Boudreau, Dennis J, 2179
Bowen, George W, 1803
Bowen, Mary H, 937
Bowen, William B, 1181
Bower, Gibson W, 521
Bowers, Harry R, 695
Bowman Alexander E, 244
Boyd, William B, 1030
Boykin, Anthony R, 428
Boyles, Robert M, 1029
Boynton, Charles Smith, 1889
Boynton, Samuel W, 1803
Bracelin, Patrick Michael, 1030
Bradfield, Charles Robert, 1622
Bradford, Oliver Leach, 1804
Bradin, Edward DeLancey, 1275
Bradley, Zarilda P, 337
Bragg, Shirley, 1721
Braswell, Benjamin D, 244
Brereton, Charles Herbert, 1889
Britton, Samuel J, 1622
Brobst, John A, 1531
Brodeur, Azarie, 1530
Brooks, William Penn 1102
Brown, Charles A, 1804
Brown, Edward Vincent, 521
Brown, George O, 1889
Brown, James Francis, 694
Brown, John Peasley, 1180
Brown, Walter Joseph, 1181
Brown, William A J, 1804
Brown, William Edwin, 1722
Browne, James Harvey, 1275
Brundage, Lawrence H 694
Brynildsen Hans L, 244
Bryning, Samuel G, 937
Buchanan, John 337
Buck, William, 782
Buckley, William C, 1722
Buckner, Arthur J, 63
Buddeke, Charles I, 1181
Bula Rolla W, 1889
Bumstead, Samuel J, 1180
Bunce, Charles, 1102
Burgess, Frederick N, 2179
Burke, Albert, 2179
Burnett Peter A, 154
Burns, John Franklin, 1721
Burr, Charles Henry, 782
Burrows, Philip Palmer, 1180
Burson Gus R, 1102
Bushnell, Handley Nelson, 2079
Buster, Alpheus Orlando, 862
Butler, Franklin E, 1804
Cady, Grosvenor B 428
Caffee Amos H, 1803
Caldwell, John Edward, 1531
Caldwell, Robert J, 2232
Caldwell, Stevenson A, 2231
Calhoun, Soltau Frederick, 783
Callahan, Joseph Thomas, 1721
Cameron, John D, 1530
Cameron, William, 1622
Campbell, Frank, 1442
Campbell, Joseph Sills, 1993
Campbell, Robert Swenton, 1531
Canada, J S, 63
Cantlie, Francis Patrick Lewis, 1992
Carleton, John F, 63
Carlisle, Eber S, 2232
Carlisle, Joel Perry, 1722
Carlstein, John A, 337
Carothers, James H, 1102
Carr, Solomon S, 2179
Carriel, Henry F, 62
Carter, Calvin, 428
Carter, W D, 1275
Cash Richard B, 337
Cavins Riley Wiltshire 1889
Chamberlain, Alonzo, 938
Chamblin, Luther L, 2179
Champagne, Aristide Beaugrand, 1532
Chandler, Perley Bickford, 521
Chaney, Fred Russell, 1443
Chaplain, James Stevens, 1180
Chapman, Harvey C, 521
Charles, Jacob, 337
Cheeseman, Andrew McP, 337
Chittenden, Daniel J, 1030
Christal, James I, 62
Clark, Mary, 1181
Clark, O W, 938
Clark, Royal F, 62
Clark, Staats Van Deuersen, 1029
Clark, Thomas J, 1532
Clark Walter Thomas, 1351
Clement, John J, 1443
Clifford Joseph Beechley, 1101
Code, James Francis, 1180
Coe Anton, 1804
Coffman, Victor H, 694
Coke, Louis McMurtry, 1030
Cole, William G, [illegible]
Coleman, Clayton Glanville, 1803
Coleman, James W, 1442
Colley, Brown, 1804
Collins, Edward E, 2079
Colson, Benjamin, 937
Conaway, Charles D, 1102
Condit, William Glasgow, 155
Conn, Eli, 783
Connell, John C, 1993
Conover, Simon B, 1180
Converse, James H, 244
Cook, Charles N, 695
Cook, Edwin Ruthvin, 1102
Cook, George A, 428
Cook, George W, 520
Cook, Irving J, 1531
Cook, John R, 1803
Cooke, Clarence Bulwer, 1442
Cooper, Filson, 617
Cooper, Herman, 1889
Corbin, Gilbert E, 783
Corcoran, Walter J, 1803
Corrie, George, 1889
Corriher Calvin Washington, 938
Cory, Abraham Morrell, 2231
Cosgrove, Sylvanus F, 2079
Cottongim, Cullen M, 2179
Covell, John Davis, 1180
Covert, Nelson B, 1804
Cove, Davies, 1804
Coyle, Felix H, 1030
Craffey Osgood, Mary L, 2179
Craig, Harvey F, 2079
Crawford, Abel M, 1530
Crelin, William Kenyon, 783
Crockett, Ernest A, 1029
Crockett, Henry Stuart, 1275
Croft, Samuel, 1722
Croswell, Thomas, 1352
Crouse, Jerome H, 520
Crowe, Emory Walter, 783
Crowe, Joseph J, 1102
Croxford Russell H, 694
Crume, Samuel M, 2232
Culbertson, Samuel Dauphin, 1992
Culter, Frank O, 244
Cummings, Ezra H, 1029
Cummings, Frederick Russell, 694
Cunningham, William Hicks, 862
Curran, Beatrice Magdalene, 337
Curtis, Alva B, 783
Curtis, George William, 1102
Curtis, Orrel C, 1804
Cushing, Ira Barrows, 783
Cutler, A D W, 938
Danford, Harvey D, 861
Daniel, John F, 155
Daniel, Oliver L, 62
D'Arcy, William N, 1275
Darling, George S, 1722
Darling, Nelson S, 2179
Dartt, Charles N, 1443
Daugherty, John L, 1181
Davidson, Joseph Dobbins, 2178
Davis, Christian William, 1993
Davis, Elijah F, 1532
Davis, John, 2232
Davis, John M, 2232
Davis, Manuel H, 937
Davis, Samuel T, 1721
Davison, Alexander C, 1531
Davison, Calvin Knox, 937
Dawley, Henry A, 1030
Day, Barnabas W, 1275
Day, Josiah Fisher, 1029
Dayton, David French, 1101
Dearing, Thomas Haven, 1530
DeLong, Daniel R, 938
Demers Louis Avida, 244
De Saussure, Daniel L, 1530
De Vinny, Clifford L, 62
Dewitt, Calvin, 936
Dexter, Benjamin F, 2079
Dicus, Joseph F, 1804
Dismukes, Benjamin Jackson, 1722
Dockler, Peter, 862
Dodd, Bethuel Lewis, 2178
Dodd, Edward, 1889
Dodd, Elias F, 1102
Dodge, Guy L, 520
Dodson, Nathan Monroe, 427
Doherty, David Joseph, 1518, 1621
Donohue, Florence, 244
Dorsett, Harrison W, 1721
Douglas, Albert E, 861
Drescher Maximilian Frederick Charles 337
Drewry, John W, 2232
Driver, John C, 1181
Drury, George W, 428
Dubois Jesse K, 1622
Dudley, James D F, 1804
Duggan David Donald, 1722
Dunn, James P H, 782
Dunlee, Vernon Amasa, 2079
Dunstan, Henry A, 337
Durant, Horace Blair, 938
Duvall, Henry Arthur, 783
Dycus, Irl 617
Earhart, William J, 2179
East, Frederick, 521
Easton, James, 783
Eckley, William T, 1029
Edebohls, George Michael, 694
Edmonds, Augustus R, 337

Edson, Henry Sheldon, 1275
Edwards, J. Jephtha, 521
Egbert, William A., 155
Eichberg, Joseph, 782
Eisenbeiss, Samuel, 695
Ellett, Boyle Ludwell, 1993
Elliott, George A., 1532
Ellis, W. Mumford, 695
Elmer, William, 427
Elmore, Alexander Marion, 62
England, George Ward, 1722
Epley, Frank W., 1181
Erwin, Ralph, 2232
Evans, Clark, 1275
Evans, Franklin J., 617
Evans, Horace Young, 520
Everhard, John J., 1030
Fahnestock, Edward G., 938
Fairlanb, George Ashbridge, 1530
Fall, Edmund W., 1804
Farr, Lyman R., 1889
Felizet, — 2070
Fennel, Otto W., 1622
Ferguson, Alexander K., 1531
Ferguson, T. Dinsmore, 1443
Fernandez, Manuel V., 1531
Field, Sharps, 1443
Finnell, Joseph M., 62
Fisher, George Russell, 1442
Fisher, John Henry C. F., 1722
Fisk, Theodore, 1443
Fitch, Pelatiah, 155
Fitzhugh, Philip Aylett, 428
Flannery, Henry, 337
Fleming, Amos C., 1275
Fleming, Robert W., 1102
Fleming, William L., 1992
Fletcher, William Walter, 427
Fliedner, Frederick, 428
Flint, Carleton Phillips, 521
Floyd, William, 783
Folger, Thomas W., 63
Ford, Edward Irving, 1992
Fordyce, Jay H., 2179
Foster, Louis Everett, 1622
Fowler, Chauncey B., 2079
Fowler, De Witt Clinton, 2079
Fox, Joseph Maurice, 2179
Fraker, William E., 937
Fraser, Donald Martin, 2232
Frenz, Englebert, 1992
Freshman, Benjamin Taylor, 1275
Fritsche, Alvin G., 428
Frost, Charles C., 1030
Fuqua, Adelbert L., 1442
Furlow, James Osborn, 521
Gahan, Garner, 938
Gahan, Myles J., 428
Ganter, Henry, 155
Garner, Henry R., 63
Gatch, Con W., 1803
Gates, Howard E., 1889
Gates, Lester C., 694
George, Robert W., 1532
Gibbs, Adoniram Judson, 1888
Gibbs, Oscar H., 1532
Gibbs, Robert Morris, 1275
Gideon, Melissa Cranston, 1532
Gile, Francis Alfred, 1531
Gillam, Samuel E., 782
Gillette, Walter Robarts, 1803
Gitchell, Chester S., 938
Glasgo, Thomas A., 783
Glenn, Frank B., 862
Godfrey, Bennett Frank, 862
Goldthwait, Bert L., 337
Good, Alonzo H., 1275
Goodwin, David M., 1180
Gordon, Frank W., 1352
Goss, Marion, 2232
Gott, Richard Thomas, 2079
Gotwols, Alfred Lord, 1275
Gould, Vernon, 1275
Grafton, William Hill, 1803
Graham, George H., 1804
Graham, George R., 1992
Graham, William Newton, 1804
Grant, George H., 1180
Grauer, Eugene L. F. E., 521
Gravis, Charles M., 1889
Grebe, William, 1722
Green, Robert W., 1530
Green, Willis S., 337
Greene. Benjamin, 1102
Greene, Frank Catlin, 428
Greenleaf, George T., 1102
Griffith, Robert G., 1102
Griggs, Alfred F., 1889
Grimes, William James, 2079
Grominger, William H., 1804
Grosser, Claudius R., 1274
Groves, John E., 1531
Grubbs, William Westford, 521
Guerin, Zophar F., 1181
Gunder, Nathan C., 1622
Gunning, Josephus Henry, 1029
Habermehl, Frederick, 428
Hadlock, James W., 1531
Haecker, Theodore Clarence, 1531
Haering, Otto E., 1443
Hagen, E. R., 618
Hagey, Arch R., 1804
Haines, Charles Sumner, 2232
Halbert, Arthur C., 783
Hale, Lorenzo, 1029
Hall, George W., 337
Hall, Orrin I., 244
Hambitzer, William, 783
Hamby, C. L., 1622
Hamill, John Hanson, 1275
Hamilton, John, 428
Hamilton, William Wilson, 783
Hamlin, George B., 337
Hamme, John M., 936
Hamy, — 2070
Hane, Charles L., 1622
Hanes, George W., 1622
Hanna, Levi M., 428
Hanning, Walter P., 337
Hardy, James E., 1531
Harmer, Joseph Randolph, 1102
Harper, John, 1804
Harrington, Charles, 1101
Harris, James M., 2079
Harris, John E., 1803
Harrison, Jacob Prosser, 1275
Hartsuff, Albert, 62
Harwood, Charles William, 1722
Hastings, Havilah E., 783
Hatch, Oliver W., 1889
Hawkins, Howard Finch, 2079
Hawkins, Josiah E., 1889
Hawkins, Peter Wood, 1180
Hayner, Jennie C. E., 521
Haynes, Jonathan Kemp, 1030
Haynie, Jacob D., 1721
Hazlewood, Green, 1532
Heath, George Francis, 62
Heavrin, James Porter, 244
Hedden, John W., 1102
Heene, Julius Godfrey, 937
Hegeman, John Aycrigg, 1442
Heidemann, George F., 1275
Heilbrunn, Albert, 521
Heintz, F. Julius, 2232
Heller, James H., 63
Hendrix, Alexander A., 1804
Henkel, Casper Coiner, 1992
Henry, Emery M., 2179
Henry, George Joel, 1889
Herbertz, Frederick W. H., 2179
Herriford, Henry, 1531
Herriman, Weston Le Roy, 1530
Herring, Frederick Arnold, 1443
Herring, Jesse P., 1531
Herron, Isaac W., 937
Herschler, Albert Andrew, 1443
Hess, Milton M., 1030
Hess, Oatie Russell, 1102
Hesse, Bernhard, 428
Hewitt, Richard N., 1804
Hibble, Joseph, 783
Hickey, Charles Erastus, 1621
Hicks, Joseph M., 521
Higbee, Lewis E., 2231
Hill, Frank Burwell, 1622
Hill, J. P., 1804
Hincks, John Francis, 428
Hines, Peter Evans, 782
Hodge, George, 936
Hodge, Joseph Anthony, 937
Hoffman, James, 337
Holland, A. U., 1030
Hollington, William, 1621
Holly, James Henry, 1102
Holstein, George W., 1532
Holt, Jacob Farnum, 936
Holt, John D., 937
Homer, John, 2179
Honaker, Cornelius, 62
Hood, Washington L., 2079
Hooper, Frederick Hubbard, 1029
Hooper, Joseph Runtz, 1102
Hoover, William C., 2232
Hopkins, John P., 1622
Hopkins, William D., 2232
Horn, George W., 1993
Horne, Samuel S., 695
Hostetler, Absalom B., 695
House, Samuel John, 1992
Houseman, Zachara T., 1101
Houston, John P., 2179
Howe, Franklin Theodore, 617
Howell, John Gilmore, 1180
Hubbs, William T., 244
Huber, Matthew, 1532
Huggins, J. Nathaniel Henry, 2179
Hughes, John B., 428
Hughes, Nathan B., 1102
Hughes, William C., 1443
Hummel, David Fox, 1351
Humphrey, Frank Merrill, 1275
Hunt, Frank P., 1275
Hupp, John C., 1992
Hurley, Daniel Madison, 63
Hurst, Walter, 694
Hutchins, Edwin S., 1622
Hutchinson, Attilla M., 244
Hutchison, John P., 1622
Hutton, Allan Clarke, 427
Hyde, W. A., 1531
Hyder, L. F., 428
Hydrick, Augustus Salley, 1442
Ireland, James G., 337
Ireland, John C., 2179
Irion, John T., 782
Ives, Francis J., 2078
Ives, Hugh Morison, 1992
Jackson, John Henry, 1621
Jackson, Walter Marsh, 1993
Jacobson, Louis C., 617
James, Joseph Alston, 1992
James, Ralph C., 1722
Jansen, William Adolphus, 63
Jeffords, Harmon M., 783
Jelks, Edwin Augustus, 694
Jennings, Ella A., 2179
Joffroy, Alix, 2070
Johnson, Edward Harris, 936
Johnson, George Kinney, 1029
Johnson, Jeremiah, 2079
Johnson, Nathaniel M., 1722
Johnson, William L., 1275
Jones, Charles P., 62
Jones, George W., 155
Jones, James Franklin, 1102
Jones, John Talfourd, 695
Joseph, Alexander F., 244
Judy, Joseph J., 2079
Kadien, Michael A., 2232
Kanouse, Elijah D., 1443
Kattenhorn, Henry F., 1443
Kell, Solomon D., 861
Kellar, Abram L., 1275
Kelley, Edwin Arthur, 1443
Kellogg, William R. Miles, 1530
Kelly, George E. C., 695
Kelly, Joseph W., 2179
Kelly, Norris Freeman, 695
Kelly, Joseph W., 2179
Kelly, Samuel Holmes, 1531
Kelty, Arthur, 1532
Kennedy, Clempson B., 862
Kennedy, James Clifford, 937
Kennedy, Josiah Forrest, 1351
Kenney, Stephen Bartlett, 937
Kepner, Melvin E., 1722
Kernal, Pleasant, 1532
Kerr, James A., 1531
Kerr, Robert, 938
Keyes, Charles R., 2179
Kimbell, Luther, 1889
King, James S., 1442
King, Ogden Doremus, 1889
Kinnear, Beverly Oliver, 1352
Kinzer, John W., 1275
Kiplinger, William, 938
Kirchgessner, Oscar, 2232
Kirkpatrick, Paul W., 1889
Knapp, Louis Philip, 2179
Knipple, John A., 2232
Kohler, John B., 1722
Kraft, Frank D., 427
Kunstlich, Alexander A., 63
Lace, John J., 1530
Laidlaw, Alexander Hamilton, 694
Lamar, Lewis, 1889
Lambeth, Robert, 63
Lanahan, Thomas Monroe, 2079
Landon, Solomon S., 1101
Lash, William Alexander, 783
Lawrence, Eben Seward, 1101
Laws, Gilford L., 937
Laxton, Joseph Lavender, 1889
Laybourne, A. W., 1531
Lebus, Leona, 1993
Lee, Maxey G., 1030
Leibecke, Charles, 1030
Lenox, Shelby L., 695
Letcher, Benjamin, 428
Lewis, Abner, 937
Lewis, Frank L., 1722
Lewis, Oscar T., 155
Liebreich, Oscar, 337, 613
Lightner, Samuel B., 155
Lindley, Alfred Hadley, 1804
Lindsay, John Armstrong, 2179
Lipscomb, Thomas J., 1889
Lockhart, James Robert, 63
Long, Thomas Wylie, 694
Long, William Henry, Jr., 1889
Lonsdale, James A., 862
Lothrop, Percy, 2179
Lott, Martin K., 521
Love, Jerome L., 2232
Lowber, Alexander J., 783
Luckie, James Buckner, 2231
Lydston, James A., 155
Lynch, Daniel W., 155
Lyon, Elijah A., 428
McAlister, John Gilman, 154
McBean, James C., 1180
McCall, William Sparrell, 1622
McCamly, William A., 1804
McCarthy, Dennis, 1532
McCausland, Thomas, 155
McClung, Richard Lauren, 1722
McClung, Samuel Y., 938
McClure, David W., 1993
McCollum, Luther G., 2078
McCosh, Andrew J., 1981, 2078
McCutcheon, Charles, 782
McDonald, Thomas Patrick, 783
McEachern, Edward Clemmons, 861
McElroy, William H., 1804
McFerrin, R. A. J., 1804
McGaughey, James Brown, 1181, 1274
Macgill, Lloyd T., 1804
McGraw, Edward B., 428
McGrew, Henry, 1102
McKeehan, Alfred Espy, 1622
Mackie, William, 2231
McKnight, William, 1531
McKinnon, William Hugh, 1442
McLaughlin, Alfred, 337
McLaughlin, James Madison, 1622
McLennan, Angus, 936
McLeod, Charles, 938
McMaster, Hugh B., 861
McMillan, Thomas C., 695
McNaughton, James A., 1722
McNeel, James S., 155
Macready, James A., 1180
Madden, Frank, 1352
Maddux, John H., 938
Mahan, Schuyler Wade, 783
Malech, Herman F., 1102
Malloy, Joseph Arthur, 1275
Marey, Frank H., 521
Marsh, Charles Franklin, 1180
Marsh, Elias Joseph, 617
Martel, M. D. Stanislas, 1975
Martin, William J., 1992
Mason, Edward P., 1181
Mason, Samuel A., 1889
Mather, Squier R., 1102
Mathews, A. H., 1622
Mathews, David W., 521
Matson, James Thornton, 1722
Matter, Martin, 1275
Matthaei, Ernest A., 2079
May, Lewis P., 1180
May, Samuel Passmore, 1531
Meacham, Thomas Boyd, 1804
Meeks, James R., 1889
Melvin, Walter Gibson, 1531
Mendenhall, Elihu T., 1889
Merville, Hiram P., 521
Mewburn, Francis Clarke, 695
Michel, William M., 154
Michener, Ava, 937
Mignault, Armand, 1992
Miller, Aaron T., 694
Miller, Alvah W., 937
Miller, Oscar Fitzerland, 937
Miller, William, 2078
Miller, William Whitfield, 2076, 2178
Millerick, Daniel Edward, 63
Mills, Nathaniel James, 1029
Mills, Orin S., 1992
Millspaugh, Isaac L., 936
Mock, Edward Anthony, 2079
Monroe, William, 244
Montgomery, Frank Hugh, 244
Moon, Lark, 1532
Moore, John S., 862
Moore, Myles S., 938
Morehouse, John A., 694
Morgan, Anna S., 695
Morrill, Alpheus Baker, 428
Morrison, Guy, 1622
Moss, David Franklin, 1531
Mott, Joseph Burney, 1180
Muecke, Franz, 2179
Mulhane, John D., 428
Murphy, Charles Oscar, 63
Murphy, William J., 1721
Murray, Hugh Thompson, 1531
Murset, Charles William, 2179
Nattress, William, 1180
Nebeker, Elbert Ferguson, 937
Neel, William D., 1030
Neiman, Howard George, 1531
Neumann, S., 1352
Neville, Michael J., 63
Nevin, William Wallace, 1102
Newcomb, Daniel, 428
Nichols, George W., 1530
Nichols, Truman, 428
Nicholson, John Lambert, 2231
Nickerson, William Mavel, 861
Nicoll, Henry Denton, 1721
Noble, Charles Dexter, 1992
Norris, George W., 1992
O'Donnell, Harry J., 1181
O'Falvey, John W., 618
Ogden, William Martin, 2231
O'Malley, Andrew, 521
O'Neill, James M., 428
O'Neill, John Joseph, 1804
Ordway, George Albert, 520
Orr, Alexander G. 937
Outland, Philander P., 1804
Owings, John Hood, 1352
Owings, Thomas Benton, 1181
Pangle, George Washington, 862
Palardy, F. L., 2232
Pardee, William C., 1181
Parent, Charles Edwin, 1804
Parish, Charles E., 861
Park, Robert F., 1722
Parke, Charles Ross, 1803
Parker, Francis Fullam, 1721
Parks, Neal O'Donnell, 1181
Parrish, James Clay, 1181
Parsons, John Eleazer, 1442
Patten, Henry J., 2232
Patterson, B. N., 695
Patterson, David Nelson, 783
Paul, James, 521
Pennington, Locke S., 155
Percival, Walter F., 1275
Perkins, George W., 1992
Perkins, Joseph Fleming, 2231
Perry, Mark P., 1889

Person, Edwin, 1531
Peters, George Franklin, 2232
Peter, Wesley, 783
Pettit, Alonzo, 1889
Peyton, William T., 694
Phillips, Edgar L., 937
Phillips, Edward H., 1275
Phillips, Winfield Scott, 337
Pitman, Sir Henry, 2079
Pitts, Albert B., 2179
Plympton, Harry, 1722
Poage, John Newton, 1993
Pope, Bolling A., 520
Porterfield, Emmett, 1102
Post, Charles M., 1102
Potter, Francis E., 1804
Pounders, William E., 694
Power, Howard L., 1804
Pratt, Orlando T., 695
Preston, George Jenkin, 62
Prigg, Edward C., 2232
Pr[illegible]e, Samuel C., 244
Provence, David M., 2232
Pruett, George W., 1530
Purdy, James W., 63
Purdy, Robert W., 1531
Purefoy, John H., 1992
Purrell, John H., 1721
Putney, Lorenzo S., 1275
Raker, Henry Morris, 155
Rand, Charles Franklin, 1530
Randall, Granger A., 2079
Randleson, Joseph B., 428
Randolph, Albert F., 862
Randolph, Arthur G., 1803
Ratliff, William A., 1993
Rea, Benjamin F., 1722
Read, Georgiana Delaney, 862
Reder, Henry, 2079
Redfield, Paul S., 521
Redick, Charles Armstrong, 617
Reed, James Hall, 2078
Reed, William L., 1275
Reeves, Gabriel Pellet, 2079
Regan, John A., 2179
Rehfuss, Emil G., 1803
Reichard, Philip L., 1275
Reid, Louis H., 155
Reiley, John Franklin, 337
Renshaw, Samuel George, 1803
Reverdin, A., 155
Reynolds, Alva, 695
Reynolds, George Warren, 1622
Reynolds, J. B., 1804
Reynolds, Robert A., 1531
Rich, Elton S., 1443
Richards, George C., 2179
Richards, Nelson B., 937
Richards, Thomas J., 1622
Richey, John K., 1622
Ring, James, 521
Riggs, James Sherbourne, 1531
Riley, Jahiel Stackhouse, 1622
Riley, William C., 938
Rinehart, Levi F., 2231
Ri[illegible]hel, John G., 783
Robb, William H., 938
Robbins, Wesley, 425
Roberts, James D., 62
Robertson, Stewart, 2231
Robertson, Ulof Oscar, 695
Robin, Edwin S., 337
Robinson, Nathaniel Stillman, 1503
Robinson, Robert Wilson, 2231
Rochelle, Martin S., 244
Rodgers, Harry M., 1352
Rodgers, John Harrison, 1351
Rogers, William Elwin, 2079
Ronan, Andrew Joseph, 1531
Roop, Jacob Warren, 2231
Root, Edith A., 2179
Root, Ernest S. S., 1443
Root, George W., 1889
Rose, Ferdinand W., 1102
Rosser, John William, 1029
Ross, Charles M., 1804
Rosson, Emma, 1532
Rothacker, Samuel, 244
Rucker, James R., 1443
Russell, James D., 861
Russell, John Elliott, 2231
Russell, Herbert A., 1531
Ru[illegible]in, Frederick, 936
Sabin, Almer L., 1722
St John, Bell, 425
Sale, Frederick, 1443
S[illegible]n, C[illegible]houn, 2179
Sanders, Stephen G., 1442
San Martin, A., 979
Saunders, Levi, 1889
S[illegible], Frank, Jr., 521
Scarbrough, Joseph B., 1275
Sch[illegible]de, George Wilford, 1622
Schley, Charles Cunningham, 1992
Schooley, Dudley, 1275
Sch[illegible]nover, William R., 1889
Schriefer, John H., 2179
Schu[illegible]ler, Louis Franklin, 937
Sch[illegible]les, James P., 861
Scott, Addison W., 1622
Scott, William D., 1[illegible]2
Seale, Moses E., 1029
Sears, Carl M., 1531
Seaton, Joseph Henry, 62
Seely, Charles Wesley, 1722
Seibert, John Philip, 1180
Sellers, Ezra M., 1622
Sellew, Philip Hamilton, 1803
Sewell, Isaac, 1275
Shackelford, Robert B., 1102
Shadd, Furman J., 154
Shaffner, John F., 1180
Shank, Rush J., 2078
Shaw, John Cook, 244
Sheppard, Nicholas C., 1029
Sherman, LeGrand D., 1030
Sherman, W. H., 1531
Shiland, John Cramer, 1443
Shirk, Benjamin F., 1030
Shoemaker, David M., 521
Shore, John B., 1622
Shotwell, John Haydock, 695
Shreve, Joseph, 1993
Sill, John Wellesley, 1804
Simpson, Frederick Wright, 1804
Sims, Claire, 63
Sinclair, Isaac P., 1102
Sleeper, Walter Julien, 861
Small, Joseph Benson, 1531
Small, Thomas W., 63
Smith, Bryant James, 428
Smith, Daniel Winans, 1804
Smith, Edgar, 1275
Smith, Edward LeRoy, 861
Smith, Francis J., 337
Smith, George H., 862
Smith, Hermon Joseph, 1101
Smith, John Currie, 1275
Smith, Julien A., 862
Smith, K. Akin, 695
Smith, Millard M., 1621
Smith, Norval, 2179
Smith, Richard Charles, 1180
Smith, Robert Edward, 1992
Smith, Russell R., 1030
Smith, Thomas K., 783
Smith, Wiley C., 521
Smoot, Benjamin Sylvester, 1722
Snively, Samuel K., 783
Snyder, Alva L., 937
Snyder, Simon P., 244
Snyder, William Henry, 1102
Sombart, John E., 337
Soper, Joseph Henry, 1622
Southard, John Q., 1180
Southwick, David Eugene, 694
Speck, R. Holder, 1275
Sprague, Albert G., 617
Sprague, Anson, 1889
Stacy, Henry Oliver, 1621
Stanton, James E., 1889
Stark, Gillis, 2231
Steeves, John Wickliffe, 695
Stephen, William, 1622
Sterling, Albert Watson, 244
Stern, Lassar, 1443
Stevenson, Byron LeRoy, 1181
Stevenson, Sir Thomas, 695
Stewart, Edgar A., 2231
Stewart, Josephus P., 1530
Stilwell, Alexander, 1889
Stipe, Charles E., 783
Stokes, Carman Champion, 1804
Story, Nathaniel L., 2179
Stout, Daniel M., 337
Stout, Winona May, 1443
Strickler, William M., 1721
Stuart, George Ewing, 428
Styer, Daniel Webster, 2179
Sullivan, John S., 155
Sullivan, Patrick Eugene, 1889
Sullivan, Tempest J., 783
Summers, John E., 1442
Sutherland, John, 1531
Swan, Charles Edward, 427
Swartz, Charles Miller, 1351
Taylor, Dwight B., 1180
Taylor, James M., 1442
Taylor, Jason Lee, 1030
Teed, Samuel F., 428
Tessler, Marcus, 1531
Thatcher, John William, 428
Thomas, Samuel O., 1181
Thomas, T. Brook, 695
Thomason, John S., 425
Thomasson, Edward G., 861
Thompson, John Austin, 521
Thompson, W. Reid, 935
Thorne, William, 1181
Throop, Augustus P., 937
Tillotson, George K., 155
Timken, John H., 1722
Timmerman, John D., 1722
Timmerman, Washington Hodges, 427
Tipton, Thomas C., 2179
Tobey, Henry Archibald, 861
Tobias, Ezra H., 618
Tobie, C. A., 521
Todd, George W., 1993
Tompkins, James Edward, 1992
Toney, Mosler J., 2231
To[illegible], John Alex, 1351
Tope, William A., 2232
Trader, Charles Winter, 521
Treatler, Oscar Edward, 1274
Trimbath, Walter Palmer, 1180
Troy, Samuel Smith, 1804
True, Orville W., 244
Tucker, Edward M., 2231
Turner, Thomas, 1352
Tyner, George William, 1804
Uncapher, Elizabeth, 63
Underwood, William Carson, 1532
Van Deveer, John G., 154
Van Marter, John S., 1993
Van Pelt, Charles, 1722
VanScoyoc, Lloyd G., 1180
Vary, William F., 1622
Vaupel, Willis J., 1180
Veith, Charles A., 1803
Vernon, Thomas H., 1803
Ver Nooy, Benjamin A., 1992
Voerster, Engelbert, Sr., 1622
Vogt, John W. N., 1352
von Poehl, A., 1181
Voss, George H., 2179
Wadsworth, Miner, 2231
Waggoner, George W., 244
Waldeck, Carl E., 618
Walker, George M., 154
Walker, Samuel N., 337
Walker, William Emrich, 2179
Wallace, Andrew J., 2232
Wall, Eliza Jane, 618
Wall, Robert L., 1804
Walsh, Thomas Gregory, 1721
Warner, Lucy M., 1889
Warner, Millard Fillmore, 1030
Warner, Rody Elton, 428
Warner, William H., 244
Washburn, L. LeRoy, 1029
Washington, J. J., 337
Watkins, Claiborne, 520
Watts, Edward L., 1442
Webb, Dyer D., 937
Webber, George J., 155
Webster, John Randolph, 62
Webster, William H., 694
Weedon, Hamilton Moore, 1443
Weeks, Joseph, 1889
Weitman, John L., 1530
Wells, Frederick H., 1803
West, Edwin Posey, 1804
West, George E., 520
West, James Park, 154
West, John Eberle, 1530
Westlake, Horace G., 63
Wetmore, John McEwen, 520
Weymouth, Henry Augustus, 1721
Whalen, Patrick Francis, 1531
Wheat, Lewis Emerson, 695
Wheeler, Frederick Lacy, 63
Wheeler, John Thorne, 2178
Wheeler, LeGrand, 1030
White, Anthony, 783
White, Ernest A., 937
White, James Leon, 937
White, Luther R., 937
Whitehead, Rufus Baldwin, 861
Whiteley, Benjamin, 1275
Whitfield, Bryan Watkins, 2231
Whitney, John W., 1443
Whitney, Joseph L. S., 938
Whitney, Lawrence E., 617
Wiard, William F., 428
Wideman, Clyde E., 694
Wilder, Alexander, 1180
Wilkin, Anna Maria, 1101
Wilkins, Walter George, 2231
Williams, Titus A., 1531
Williams, Wellington, 1722
Williamson, William T., 520
Willits, James R., 1530
Willson, Hugh McG., 937
Wilson, Howard Eugene, 1722
Wilson, J. LaRoche, 1721
Wilson, John Walker, 520
Wilson, Joseph, 1722
Wilson, Leonard M., 1443
Wilson, Thomas M., 1888
Winchester, B. Dorsey, 1030
Winger, Henry C., 2232
Winn, John Harvey, 2231
Winne, Elijah E., 937
Winner, William G., 428
Winter, William Henry, 2179
Winternitz, Isaac A., 244
Wiswell, Miranda P., 1531
Wood, Anna, 244
Wood, Samuel E., 1531
Wood, Stephen Andrew, 783
Wood, William Field, 1721
Woodring, William Wallace, 2078
Woodruff, William, 783
Woods, William Barr, 936
Woodson, Everett W., 244
Woolridge, Charles William, 1622
Woosley, J. H., 244
Work, Manley William, 937
Wright, Augustus, 521
Wright, Benjamin C., 1531
Wright, John B. C., 1889
Wurtele, Augustus Herman, 521
Yarbrough, Henry E., 1531
Yoe, Clyde R., 63
Young, Alexander H., 62
Young, Henry Clarence, 1275
Young, John Pearl, 1722
Young, Matthew H., 937
Zimmerman, G. W., 1443
Zimmerman, Hiram E., 1352
Zimmerman, William, 695

E

Ear and larynx complications of typhoid, 1455—ab
  complications of influenza and their treatment, 1468—ab
  diseases, from medical standpoint, 1356—ab
  indications for mastoid operation, 868—ab
  indications for operations on, 868—ab
  affections, intracranial complications of, 338—ab, 626—ab, 1656—ab
  in mumps, 1961—O
  internal suppurative inflammation of, 1649—ab
  manifestations in inherited syphilis, 81—ab
  meato mastoid operation in chronic mastoiditis, 1062—O
  middle, chronic deafness, 793—ab
  Middle, Inflammation of. See Otitis media
  middle, ignorance of significance of disease of, 2089—ab
  middle, sclerosis, 364—O
  reactions of labyrinth of, and their significance in diagnosis of suppurative labyrinthitis, 1754—O
  speculum with handle, 1330—O
  symptoms of cardiovascular disease, 1534—O
  traumatic defects of, plastic restoration of, 875—ab
  tuberculosis of, 1256—ab, 1278—ab
Ears and eyes of school children, examination of, 250—ab
Echinococcus disease in Argentina, 777
Eclampsia, 846
  albuminuria and pregnancy, parathyroid treatment of, 1651—ab
  blood pressure in, 256—ab
  kidney decapsulation in, 60, 261—ab
  pathogenesis of, 360 ab 77 ab, 1739 ab
  pathogenesis of, and of normal pregnancy, dropsy, and kidney of pregnancy, 1647—ab
  placental origin of, 1647—ab
  placental theory of disease of, 2099—ab
  plea for prompt evacuation of uterus in, 2041—O
  puerperal, 259—ab, 1353—ab, 2189 ab
  puerperal, suprarenal capsules in, 81—ab
  toxin, attempt to determine, by experiment, 359—ab
  treatment of, 169—ab, 261—ab, 359—ab
  treatment of, by veratrum viride, 1377—ab
Ectromelia, associated with other deformities, 2002—ab
Eczema and allied conditions, 345—ab
  and asthma, 539—ab
  chronic, coal tar in, 497—O, 1024—O
  etiology and treatment of, 353—ab
  nature and causes of, 1829—O
Edema, angioneurotic, as familial cause of sudden death, 2005—ab
  essential, angioneurotic and other examples of, in children, 1817—ab
  hereditary persistent of legs, with acute exacerbations, 262—ab
  nature and cause of, 830—O
Editors of state journals, and association of state secretaries, 145
Education and publicity, 1545—ab
  antituberculosis, 1358—ab
  dental, 275—O
  for protection against tuberculosis in schools, 1538—ab
  hygiene, Louisiana system of, 323 ab
  influence of, on development of women, 1995—ab
  medical, report of committee of American Academy of Medicine on, 339—ab
  modern methods of and effects on health of race, 429—ab, 1553—ab
  of people in prevention of disease, necessity of, 2079—ab
  of public in medical matters, 339—ab
  preliminary, state board requirement of, 604
  public health and legislation, 710—ab
  public school, 157—ab
Educational number Journal, additional data for, 1273—ab
  number British Medical Journal, 1189—ab
  number Medical Press and Circular, 1254—ab
  standards and pseudomedical colleges, [illegible]

Educator, public, physician as, 862—ab

Effusion, pleural, insufflation of air in treatment of, 1380—ab

Effusions, pleuritic, influence of, on pulmonary tuberculosis, 1910—ab
  tuberculous, diagnostic value of cytologic examination of, in various serous cavities, 1896—ab

Eggs, idiosyncrasy to, 86—ab
  of parasites, detection of, in stools, 1193—ab

Eglitol capsules and pyrenol tablets, 774—ab

Egyptian government, craniologic investigation by, at Royal College of Surgeons, 235

Elaterinum, 40

Elbow, arthroplasty for complete ankylosis of, 2090—ab
  resection, technic for, 1384—ab
  resection with retention of function, 1040—ab

Electricity, accidents from, suddenly fatal, 2100—ab
  and lightning, injuries from, 715—ab
  high-frequency, and hysteria, 2010—ab
  in relief of pain, 1891—ab
  physiologic action of, and uses of in therapeutics, 1624—ab

Electrocardiograms in diagnosis of heart disease, 2012—ab

Electrotherapeutic Association, American, advancement of, 1890—ab

Electrotherapeutics, 1462—ab

Electrotherapy, attitude of neurologists to, 13—O

Emanosal and radium, 2173

Embolism, air, in placenta prævia, 1561—ab
  and phlebitis, after laparotomies, 127—ab
  and thrombosis, warning symptoms of, 1043—ab
  of pulmonary artery, operative treatment of, 358—ab, 539—ab, 713 ab
  pulmonary, after radical treatment of inguinal hernia, 629—ab
  pulmonary, clamping large vessels near heart in operative treatment of, 2097—ab
  pulmonary occluding, 74—ab
  pulmonary, postoperative, 1556—ab

Emphysema of lung, operative treatment of, 83—ab
  pulmonary, and asthma, 716—ab
  pulmonary and asthma, manual-mechanical and gymnastic treatment of, 541—ab

Empyema, chronic, treated by hyperemia and hypertransudation, 1111—ab
  in children, 172—ab
  irrigation of chest in, blood pressure lowering reflexes from, 1816—ab
  of sphenoid sinus, radical operation for, 2108—O
  perforation of, in ethmoidal and frontal sinuses into orbit, complicating scarlet fever, 1648—ab
  surgical treatment of, 789—ab

Empyemas, recent application of Bier cup in, 572—O

Encephalitis See Headache

Endoneurismorrhaphy, statistics of, 1667—O

Endocarditis, 437—ab
  chronic, management of, during compensation, 348—ab
  malignant fatal, treated with colloidal silver, 1510—O
  phagocytic immunity and therapeutic injection of dead bacteria in, 1571—O

Endocardium and myocardium changes in, as cause of death, 1117—ab

Endometritis, chronic, anatomy, pathology and treatment, 2193—ab
  exfoliative—membranous dysmenorrhea, 1279—ab

Endoscopy of uterus, 1469—ab

Endothelioma of pleura, 620—ab
  of scapula with removal of entire bone, 757—O

Endotheliomata of ovaries and tubes, 82—ab

Enema, laudanum, and starch, formula of, 1619

Enemas continuous saline, in peritonitis, apparatus for, 406—O
  nutritive, influence of, on gastric secretion, 315—O

Energy and matter in vital processes, 1647—ab

Engineers, locomotive, danger from illness of, 928—C

England, vaccination in, 414—ab

Entente médicale 139

Enteroptosis, surgical phases of, 532—ab

Enteroptosis types of, 866—ab

Enterostomy for acute intestinal obstruction, 74—ab

Enzymes, in tuberculous lesions, 1448—ab

Eosinophilia and trichinosis, 78—ab

Epidemiology of plague, insects in, 628—ab

Epididymis, mortality of spermatozoa in, 1424—O
  tuberculosis of, 1539—ab

Epididymitis, gonorrheal, 77—ab
  gonorrheal, acute, operative treatment of, 161—ab, 2001—ab

Epilepsy affected by intercurrent disease, 1616—C
  anatomic findings in, after trauma, 1472—ab
  and dementia præcox, diagnosis of, 163—ab
  and migraine, thyroid extract in, 625—ab
  and ophthalmic migraine, 480—O
  bitemporal hemianopsia after *subsidence of*, 1821—ab
  hydrocephalus and tumors, puncture of corpus callosum in, 1042—ab
  idiopathic, complicated by motor aphasia and diplegia, 1778—O
  idiopathic, with paralysis, due to a germ? 73—ab
  in private practice, especially that from reflex causes, 622—ab
  lumbar puncture in, 777—ab
  menstrual reflex, hysterectomy for, 1742—ab
  operative treatment of, from clinical and anatomic standpoint, 1630—ab

Epileptic and Paralyzed, National Hospital for, 2169
  convulsions, localized, without gross lesions of cortex, 163—ab
  Institute Company, 1860

Epileptics, marriage of, 1787—E

Epithelioma, early treatment of, 894—O
  extirpation of lower pharynx for, with permanent esophagostoma, 1815—ab
  of liver with cirrhosis of liver, 1384—ab
  of lower eyelid, with successful transplantation from arm, 1356—ab
  of penis, ablation in one piece of, and its lymphatic territory, 1738—ab
  x-rays in, 1761—O

Epitheliomas of skin, unusual, 1398—O

Epithelium, embryonic, transplantable *mouse cancer and certain organisms*, resistance of, to freezing with liquid air, 2003—ab

Epiphysis, lower, of radius, nailing it, 1329—O
  lower, of tibia, fracture of, 431—ab

Ergot, fluid extract of, physiologic assay of, 2130—O
  in cases other than obstetrical, 348—ab

Ergotinin citrate, 2161
  citrate and strychnin sulphate tabloid, 2161

Erysipelas, 264—ab
  and scarlet fever, 1651—ab
  diagnosis of, 1736—ab
  magnesium sulphate solution in, local use of, 259—ab
  of pharynx, primary, 316—O
  treatment of, 795—ab

Erythema figuratum perstans, 1936—O

Erythrodermia desquamativa, 536—ab

Erythromelalgia, 2157—O
  Raynaud's disease and allied conditions in relation to vascular disease of extremities, 1902—ab

Esophagoscope as diagnostic and therapeutic aid in esophageal obstruction, 622—ab
  and bronchoscope, removal of foreign bodies by, 338—ab
  bronchoscope and gastroscope, use of, 790—ab

Esophagostoma, permanent, extirpation of lower pharynx for epithelioma with, 1815—ab

Esophagus and lung, fistula between, 1114—ab
  congenital obliteration of, 155—ab
  diverticulum of, 785—ab
  foreign bodies in, 2197—ab
  obstruction of, diagnosis of, 699—ab, 1465—ab
  obstruction of, esophagoscope as diagnostic and therapeutic aid in, 622—ab
  positive pressure method of artificial respiration in surgery of, 805—O
  stricture of, spasmodic, in infant of four months, 155—ab

Esophagus, stenosis of, diagnosis of, 1640—ab
  stricture of, x-ray diagnosis of, 1806—ab
  x-ray examination of, 1901—ab

Esperanto and medicine, 684, 1024
  in Red Cross service, 1166
  plea for, in international medicine, 1881—O

Ether anesthesia, methods of producing, 1574—O
  method of dropping from original can, 1639—ab
  prevention of vomiting during first whiffs of, 717—ab

Ethics, foundation of, 1875—E
  reductio ad absurdum of, 862

Ethmoid, antrum and sphenoid, submucous resection of lateral nasal wall in chronic *empyema of*, 1136 O
  perforation of inner corner of eye and involvement of maxillary antrum, 1325—O

Ethyl-chlorid as general anesthetic in *Pennsylvania Hospital*, 2089—ab
  for general anesthesia, 173—ab

Euphemisms, 504—E

Eupyrexia, 1639—ab

Europe, codes of criminal procedure of, 2001—ab

Evidence, admissible, concerning, and responsibility for, subsequent dislocations, 1547—ab
  admissible, proper construction of statute making communication to physicians privileged, 436
  of condition of eyes, admissibility of, as proof of internal injury, 863—ab

Evil tendencies in medicine and surgery, 2088—ab, 2234—ab

Evolution of preventorium, 410—E, 444—ab

Examination, instrumental, in diseases of rectum, 1036—ab
  physical, routine, value of, 2038—O

Examinations, physical, power of courts to order, 1460—ab, 2087
  state board, character of, 1784—E

Examining boards, state, 249—ab
  boards, Texas, 1350

Exercise, active, peripheral action of, on circulatory disturbances with *fat heart*, 1559—ab
  and rest in tuberculosis, 2233—O
  mechanical, and cold, influence of, on sugar excretion in phloridzin glycosuria, 350—ab
  muscular, and oxygen as form of treatment, 1554—ab
  therapy, Frenkel's improvement of peripheral centripetal neuron in tabes by, 955—ab

Exercises, auxiliary, and carbonated mineral baths, in chronic heart diseases, 1110—ab

Exhibition, medical historical, at Stockholm, 328

Exhibits at International Congress on Tuberculosis, 1340—E, 1369

Exophthalmic goiter, 267—ab, 539—ab, 699—ab, 1119—O, 1183—ab, 1276—ab, 1381—ab, 1543—ab, 2090—ab
  action of lecithin in, 1464—ab
  and Raynaud's disease, 178—ab
  and thymus, 356—ab, 1289—ab, 2220—O
  and thyroidism, blood findings in, 1558—ab
  blood in, 1286—ab
  diarrhea in, 266—ab
  fatal asystole in, 538—ab
  hereditary occurrence of, 1116—ab
  ocular symptoms of, 1543—ab
  partial thyroidectomy in, 1110—ab
  plus surgical lesions, 1464—ab
  prognosis of surgery of, 1648—ab
  psychic factor in surgery of, 260—ab, 1375—ab
  surgery of, 714—ab, 1543—ab
  treatment of, 1901—ab
  x-ray treatment of, 1474—ab, 1543—ab, 1638—ab

Expectation neuroses, monosymptomatic, 633—ab

Experimentation, animal, passive hyperemia in, 261—ab

Expert testimony and alienist, 530—ab
  testimony, supposed evils of, 530—ab

Extension, without use of weights, for fractures, 790—ab

Extremities, functional paresis of, new sign of, 2236—ab
  vascular disease of, Raynaud's disease, erythromelalgia and allied condition in relation to, 1902—ab
  Upper, Lower See Arm, and Leg

Exudate, *recognition of pure pneumothorax without, in pulmonary* tuberculosis, 1898—ab

Exudates and transudates, differential diagnosis between, by Rivalta test, 718—ab, 956—ab

Exudative diathesis, 533—ab

Eye and cardiovascular disease, 212—O
  affections, phlyctenular, and tuberculin, 1383—ab
  and brain complications of anemia and relationship to thrombosis, 1378—ab
  and nose abnormalities, reflex neuroses arising from, 1815—ab
  angiosclerosis, retinal, beginning signs of, 1357—ab
  artificial, restoration of conjunctival cul-de sac for insertion of, 1070—O
  clinical aspects of lenticular astigmatism, 302—O
  complications of pregnancy, 204—O
  conditions in public schools, 789—ab
  conditions, serious, immediate treatment of, frequently first seen by general practitioner, 789—ab
  consanguinity and disease of, 1356—ab, 1188—ab
  convergent reaction in reflex immobility of pupils of, 630—ab
  crises in tabes, 1474—ab
  development of deformities of crystalline lens of, 1051—O
  ethmoidal perforation of inner corner of, and involvement of maxillary antrum, 1325—O
  external muscles of, motor disturbances in, and localization of focal brain affections, 447—ab
  fundus, examination of, by transillumination of orbit from nasopharynx, 356—ab
  gross obstructive diseases in retinal vessels of, 1357—ab
  hygiene of, in school children, 623—ab
  idiopathic inequality of pupils, 1177—ab
  immediate treatment of serious conditions of, frequently first seen by general practitioner, 789—ab
  internal affections of, value of sweating in treatment of, 1512—ab
  Kugel's operation for occlusion of *pupil of*, 1440
  lens displacement other than traumatic, treatment of, 492—O
  manifestation of general diseases, 1811—ab
  neuroretinal lesion, subtemporal decompression in chronic nephritis with uremia and, 1902—ab
  reaction to tuberculin, 438—ab, 540—ab, 629—ab, 871—ab, 1027, 1192—ab, 1361—ab, 1362—ab, 1376—ab, 1626—ab, 1736—ab, 1756—O, 1816—ab, 1836—O
  reaction to tuberculin, dangers of, 717—ab, 2011—ab
  reaction to tuberculin in guinea-pigs, 1901—ab
  reaction to tuberculin, value of, in surgical treatment of orbital disease, 1174—ab
  refraction in Indians fresh from plains, 308—O
  relation between retinal hemorrhages and high arterial pressure, 1177—ab
  retinal hemorrhages of, and arterial pressure, 1733—ab
  sarcoma of chorioid, 1188—ab
  serious condition of, frequently first seen by general practitioner, 433—ab
  suggestions of pupil of, in general disease, 1902—ab
  symptoms of brain tumors, 1036—ab
  symptoms of exophthalmic goiter, 1543—ab
  therapeutics, value of morphin derivatives in, 1643—ab
  throat, nose and accessory cavities, affections of, 1471—ab
  to clear cornea of opacity from metallic caustics, 447—ab
  transillumination of, 170—ab
  tuberculosis of cornea of, 1255—ab
  typhoid toxin reaction, 540—ab
  ulcerations, 441—ab

Eyeball, prognosis in penetrating wounds of, 312—O

Eyelid, lower, epithelioma of, with *successful transplantation from* arm, 1356—ab

Eyes, admissibility of evidence of condition of, as proof of internal injury, 863—ab
  and ears of school children, examination of, 250—ab
  and tobacco, 76—ab

F

Face and nose, non specific ulceration of bones of, 1465—ab

Fairchild Brothers and Foster and report of Council on Pharmacy and Chemistry on diastase ferments, 1025

Fallopian tube, endothelioma of, 82—ab
  removal of, through vagina, 358—ab
  right and appendix, abnormal position of, 1535—O
  inflammation of, treated by operation, 1643—ab
Fallopian tubes and ovaries, operations on, 259—ab
  and uterus tuberculous process in, with myoma, 1826—ab
  pus in, treatment of, 1107—ab
Family diseases, 443—ab
Far East, opportunities of medical profession in, 1178—ab
Faradic stimulation break shocks in, calibration of inductorium for, 350—ab
  stimulation, variable factors involved in, 350—ab
Farm commission and rural sanitation national, 679—E
Fasting, therapeutic, efficacy of, in typhoid, 194—O
Fat, high percentages of, in infant, 1215—O
  increase of proportion of, in breast milk, during ingestion of, 873—ab
  tissue, subcutaneous necrosis of, 1474—ab
Fatness influence of, on susceptibility to caisson disease, 2190—ab
Feces, result of 300 examinations of, for amebas, 1108—ab
Federal aid for Pharmacopeia, 1420 ab
Fee bills medical, 793—ab
Feeble minded, care of in Great Britain, 770
  children, deformities in, 343—ab
Feeding infant See Infant Feeding
  laboratory, range of resources it provides, 246—ab, 1376—ab
  the sick principles of, 955—ab
Fees, division of, and giving commissions, 1536—ab
  for experts 1030
Feet See also Foot
  painful, diagnosis of, 791—ab
  painful, Raynaud's disease, 523—ab
Fehling's solution, new saccharometer for use with, 496—O
  rapid and precise determination of terminal reaction in titration of sugar with, 1288—ab
Felon milkers', 717—ab
Femur and pelvis, multiple fractures in, with trauma of kidney and impaction of pubic arch in bladder 948—ab
  fracture of, in new born, 79—ab
  fracture of, method of treating, in infants, 711—ab
  fracture of neck of, non operative treatment of, 343—ab
  fracture of neck of, operative treatment of, in adults, 2090—ab
  fracture of shaft, treated by open method, 2003—ab
  fractures of, conservative treatment of 2090—ab
  fractures, recent of shaft, operative treatment of, 1372—ab
  fractures, true, of neck of, in young, 1114—ab
  head of, and iliopsoas, abscess between, 2191—ab
  lower epiphysis of, injury to, 63—ab
  sarcoma of, congenital, cured by operative and x ray treatment, 1986—ab
Ferment activity of gastric contents, method for estimating, 710—ab
  proteolytic leucocyte, importance of in pathologic physiology, 2099—ab
Fermentation intestinal, dyspepsia from 174—ab
Ferment diastase report of Council on Pharmacy and Chemistry on, 140 1035
  digestive, 2218
Fetus death of in labor 77—ab
  relation between weight and age in 919—O
  stab wound of, in utero, 791—ab
Fever intermittent or prolonged, with tertiary visceral syphilis 1193—ab
  obscure, in infancy, 347—ab, 869—ab
  interpreted in syphilitic liver affection 1193—ab
  puerperal, 1037—ab
  puerperal diphtheritic genital infection simulating, 965—O
  reduction of by prolonged application of ice to heart, 332—ab
  Scarlet See Scarlet Fever
  three day virus of [illegible]—ab
Fevers differential diagnosis of 1282—ab
Fibroelastomyxoma of heart and casuistic study of tumors of heart, especially myxomas, 1[illegible]13—ab
Fibroid symptomless uterine and conservative surgeon, 972—O
  uterine, general pathologic conditions with, 338—ab, 2188—ab
Fibroids and carcinoma of uterus to, 1400—ab
  intraligamentous, 1458—ab
  of uterus operative and non operative, 1815—ab
Fibromyoma of round ligament, 1469—ab
Fibromyomata of uterus and anemia, 1305—O
Fibula and tibia compound comminuted fracture of, treatment, 2057—O
Filariasis nocturna, 1642—ab
Finger plethysmography and turgosphygmography, 2096—ab
Fingers, infectious ulcerations of, 146—ab
First Aid and Life Saving Congress, First International 418
  courses, what should be taught regarding dangers of infectious diseases in, 356—ab
Fistula anal advantage of elastic ligature in 1107—ab
  rectal bismuth paste in 1634—ab
  between lung and esophagus, 1114—ab
  fecal, subsequent formation of, and stone in bladder with intermittent pneumaturia for 3 years, 260—ab
  pancreatic, physiology and pathology of secretion of, 1559—ab
  pancreatic, secretion from and influence on it of antidiabetic diet, 1380—ab
  pathology of, between stomach and colon 448—ab
  rectovaginal, imperforate anus with, 670—O
  ureteral atrophy of kidney with, 1739—ab
  uterovaginal complete and incomplete differential diagnosis between 709—ab 948—ab
Fistulas diagnosis and treatment of, 76—ab
  urethrorectal, 160—ab
Fistulous tracts tuberculous, treatment of 709—ab
Fits uncinate group of, and cerebral centers for taste and smell, 879—O
Flatfoot, 1551—ab
Flea how it clears itself of plague bacilli, 625—ab
Fleas on rodents and men on Pacific coast, 495—O
Flies as carriers of contagion in yaws 712—ab
  in dissemination of infectious diseases 1108—ab
  in dissemination of tubercle bacillus, 1954—ab
  typhoid due to 2058—ab
Florida medical news 764, 1432
  proliferating cestode larva in man in, 1110—ab
  State Board April report, 242
Fluorescein, 2161
  tabloid, ophthalmic, 2161
Folin method for estimating quantity of ammonia in urine, 692, 860
Food and Drugs Act two years of progress under, 315—ab
  eaten too rapidly, overdistention and overwork of stomach from, 713—ab
  inspection and its benefits to people, 1635—ab
  preservatives, 419
  pure, and drug regulation, necessity of, 2079—ab
  value of nuts, 2063—E
  values practical application of, in nutrition of children 1186—ab
Foods, diabetic, report of Connecticut Agricultural Experiment Station on, 1168
  impure, and nostrums, canned mud from exploiters of, 331—ab
  Jireh diabetic, 1709
Foot and arm, multiple and recurring patches of gangrene on, 173—ab
  and mouth disease, campaign against, 1709
  paralytic eversion of, operative treatment of 576—ab
Football casualties, 2164—E
Forceps axis traction vs telephone and motor car, 1555—ab
  reverse antrum with sphenoid punch attachment, 12[illegible]—O
  tonsil 1695—O
Foreign bodies and cancer of intestine [illegible]—ab
  bodies in abdomen, 1035—ab
  in esophagus 2197—ab
  bodies, migration of, 1259—ab
Foreign bodies, removal of, by bronchoscope and esophagoscope, 338—ab
  medical news 49, [illegible]28, 418, 501, 612, 684, 770, 928, 1022, 1092, 1166, 1243, 1345, 1436, 1522, 1611, 1707, 1793, 1879, 2069, 2168, 2226
Foresters, Providence court of, abolishes contract system, 425
Formaldehyd derivatives, fate and actions in body, 818—O
  in milk, 778
  in milk, tests for, 932
Fossa, iliac, method of partitioning off, after complicated appendicectomy 1285—ab
Foster Milburn Company vs Col Jack P Chinn, history of case of, 1185—ab
Fourth disease diagnostic blood findings in 1699—ab
Fourth of July accidents, 42—E, 848—E
  holocaust and public opinion, 850—E
  injuries and tetanus 841—O
Fowls as typhoid bacilli disseminators, 1526
  results of ovarian transplantation on body weight and egg weights in, 1314—O
Fracture and refracture of patella, treatment, 1736—ab
  chauffeur's, 1379—ab
  Colles' correction of deformities following 526—ab
  compound, comminuted of tibia and fibula, treatment of, 2057—O
  dislocation, through neck of humerus 74—ab
  intracapsular, of hip joint, operative treatment of, 526—ab
  of femoral neck non operative treatment of 343—ab
  of femoral neck operative treatment of, in adults, 2090—ab
  of femoral shaft treated by open method 2003—ab
  of femur in infant, method of treating, 711—ab
  of femur in new born 79—ab
  of humerus supracondyloid, reduction of, 1372—ab
  of humerus treatment of 74—ab
  of lower epiphysis of tibia, 431—ab
  of patella, 1944—O
  of patella, apparatus for treatment of 792—ab, 1381—ab
  of patella, treatment of, 169—ab
  of radius, 77—ab
  ununited comminuted, removal of patella for 533—ab
Fractures and dislocations, treatment of, 1651—ab
  compound, comminuted, of all maxillary bones 1697—O
  extension without use of weights, for, 790—ab
  first aid in, 68—ab
  immediate operative treatment of, 1272—ab
  mobilization and massage in, 1554—ab
  multiple of pelvis and femur, with trauma of kidney and impaction of pubic arch in bladder, 948—ab
  obscure, discovered by x rays, 790—ab
  of condyles of humerus, 68—ab
  of extremities, nerve involvement in 785—ab
  of femoral neck of in the young, 1114—ab
  of femur conservative treatment of, 2090—ab
  of femur, operative treatment of, 1372—ab
  of forearm bones direct and internal splintage by operation in, 1379—ab
  of leg, oblique and complicated, 1272—ab
  of long bones, 1185—ab
  of long bones, extension treatment of, 1190—ab
  of long bones, necessity for end to end apposition in, 1737—ab
  of os calcis 1729—ab
  of pelvis, and urethral injury, 1542—ab
  of skull injuries of cranial nerves from 271—O
  of thigh improved Hodgen splint for, 167—ab
  of tibia compound comminuted, 1542—ab
  open treatment of, 68—ab
  operative treatment of, and consequences, 1040—ab
  symptoms and diagnosis 68—ab
  300 consecutive cases of severe traumatisms and 257—ab
  x ray diagnosis of, 431—1105—ab
  x ray diagnosis and treatment of, 65—ab
Fractures, x ray plates of, from Massachusetts general hospital, 432 ab
France, depopulation in, 1346
  yellow fever in, 1515—E
Francois, B, de Paris, miracles at tomb of, 256—ab
Freezing, resistance of tumor cells, embryonic tissue and organisms to, 1701—E
French as international scientific language, 1245
  Surgical Congress, verdict of, on treatment of facial neuralgia, 1909—ab
Fresh air treatment in home in pediatrics, 1505—O
Fright, and indirect physical impact, injuries from, 254
  or shock, liability for, Ohio against, 1729—ab
Fruits, food value of, 1191—ab
Fundus desirability of ophthalmoscopic examination of, while still possible, in senile cataract, 2004—ab
Funiculitis, endemic, 442—ab

G

Gall bladder and bile channels, inflammation of, without gallstones, 448—ab
  disease and gastric ulcer, incidence and differential diagnosis of, 1805—ab
  surgical affections of, 1109—ab
Gallio prize, 612
Gallop rhythm of heart, 167—ab
Gallstone and other visceral pains, differentiation of gastric pains from 1805—ab
  colic, 1014
  disease, and pancreatitis in its relation to, 377—O
  disease, ischochymia simulating, 441—ab
  ileus, 1471—ab
Gallstones and pancreatic diabetes, 1724—ab, 2234—ab
  inflammation of gall bladder and bile channels without, 448—ab
  operative treatment of, 1740—ab
Ganglia, pathogenesis of, and structure and development of synovial membrane, 707—ab
Ganglion, Gasserian, surgery of, 352—ab
Ganglioneuroma, 713—ab
Gangrene, angiosclerotic, arteriovenous intubation in 631—ab
  diabetic, amputation in, 789—ab
  multiple and recurring patches of, on arms and foot, 173—ab
  of extremities after pneumonia, 952—ab
  of extremities, complicating typhoid, 87—ab
  of extremities in infants, 867—ab
  of small intestine, limited annular, invagination of resection, 472—O
  presenile spontaneous, vascular lesions leading to, 1902—ab
  self inflicted 263—ab
  treatment of, in strangulated hernia 171—ab
Gardner's syrup of hydriodic acid, report of Council on Pharmacy and Chemistry on 1712
  of ammonium hypophosphite, 2218
Gas distention, postoperative, of abdomen, 1904—ab
Gases stomach and intestinal, 1462—ab, 1549—ab
Gastric cancer, 1901—ab
  and gastric ulcer, diagnosis between, at operation, 558—O
  at Heidelberg, 1287—ab
  atypical symptoms in, 1695—O
Gastric carcinoma, early diagnosis of, 1541—ab
  carcinoma, early diagnosis of, and nature of carcinoma in general, 2000—ab, 2189—ab
  carcinoma, typical localization of metastasis of, 1650—ab
  crises and lightning pains, arterial pressure in tabes dorsalis and its modification by, 1735—ab
  carcinoma, hemolytic substances in stomach content and their importance in diagnosis of, 2097—ab
  disturbances, functional, and lactic acid bacillus in digestive tract, 1910—ab
  hyperacidity, origin of, 1381—ab
  lavage value of 1732—ab
  pains differentiation of, from gall stone and other pains, 1805—ab
  secretion and salt, [illegible]7—ab
  surgery of present day, 16[illegible]—ab
Gastric ulcer and gastric cancer, diagnosis between at operation, 558—O
  and duodenal, 2[illegible]0—ab

Gastric ulcer and duodenal, acute perforating, 2090—ab
  and duodenal, diagnosis of, 651—O 1549—ab
  and duodenal round, 533—ab
  and duodenal secondary to wounds of bladder, 260—ab
  and gall bladder disease, incidence and differential diagnosis, 1805—ab
  antipepsin for treating, and protection of stomach against autodigestion 1558—ab
  diagnosis and medical treatment of, 1819—ab
  diagnosis of, 651—O, 1549—ab
  dietetic and medicinal treatment of 1828—ab
  dietetic treatment of, 265—ab
  etiology and pathogenesis of, 1541-ab
  functional stomach tests in diagnosis of, 1114—ab
  how frequently does it become carcinomata? 260—ab, 353—ab
  Lenhartz treatment of, 497—ab
  perforating, 405—O
  treatment of, 352—ab
Gastritis, suppurative phlegmonous, 167—ab
Gastroduodenoscopy and diaphanoscopy, 713—ab
Gastroenterostomy, analysis of stomach contents after, 625—ab
  cauterizing, 713—ab
  changes in chemistry of stomach after, 1910—ab
  medical aspect of, based on operations at Manchester Royal Infirmary, 1378—ab
  motor functions of stomach after, as demonstrated by x rays, 710 ab
Gastrointestinal affections, occult blood in stools and stomach content in, 83—ab
  diagnosis, permeation method of, 634—ab
  diseases, and pancreas, 170—ab
  dyspepsia, chronic, and chronic dyspeptic diarrhea, 1559—ab
  hemorrhage, postoperative, 2195—ab
  tract and blood diseases, 1542—ab
  tract and upper air passages, infection by way of, 1651—ab
  tract, lactic acid bacillus in and functional gastric disturbances, 1910—ab
  tract, perforation of by swallowed foreign bodies, 1282—ab
  tract, tuberculosis of, 867—ab
Gastroptosis, 707—ab
  surgical treatment of, 2189—ab
Gastroschisis, 1972—O
Gastroscope, esophagoscope and bronchoscope, use of, 790—ab
Gauze pack, inconsistencies of, 1033—ab
Gelatin, incubation of, and culture of bacilli, 239
  iodized, in tuberculous peritonitis, 1743—ab
General medical news, 49, 233, 328, 509, 684, 854, 927, 1021, 1090, 1165, 1242, 1345, 1436, 1521, 1610, 1706, 1791, 1983, 2068, 2168, 2225
  practitioner, uses of x-ray by, 1186—ab
Genitalia, female, and internal diseases, 1550—ab
  female, cancer of, treatment, 354 ab
  female, disease of, in relation to health of women and to increase in population, 1280—ab
  female, diseases of, 250—ab
  female, external, and development of hymen, 1903—ab
  female, mental and physical conditions after mutilating operations on, 345—ab
  female, repair rather than removal of, 1459—ab
  female, tuberculosis of, 867—ab, 1539—ab
  staphylococcus infection of, 2008—ab
Genitourinary tract, gonorrhea of, gonococcus vaccine in, 1419—O
Georgia medical news, 681, 1161, 1340, 1517, 1703, 1876
  state board May report, 153
German courts, sentences for charlatans in, 55
Germany, fraudulent proprietaries in, exposure of, 857
  medical journalism in, ethics of, 614
  medical press of, and nostrums, 330—ab
  medical organization in, 1246
Get well tablets, 2172
Gift, to advance psychiatry, 43—E
Gingivitis, interstitial, 386—O
Gland of Bartholin, carcinoma of, 1473—ab
  pituitary, active principle of, and diuretic action of adrenalin, 1849—O
Glanders infection, accidental, 236
  laboratory, 1873—E
  value of agglutination reaction and of bacteriologic methods in diagnosis of, 2003—ab
Glands See also Particular Structures Involved
  and muscles, resuscitation of, after temporary anemia, 350—ab
  bronchial, and apices, x-ray diagnosis in *tuberculosis of, 1102—ab*
  cervical, softened, tuberculosis of, possibility of avoiding scar formation in, 1628—ab
  in neck, injury of nerves during extirpation of, 713—ab
  lymphatic, tuberculosis of, in children, 1366—ab
  Mammary · See Breast
  mesenteric, primary tuberculosis of, 1114—ab
  reciprocal action of, with internal secretion, 1475—ab
  retroperitoneal, tuberculous, and spinal symptoms, 1364—ab
  salivary, ranula and other diseases of, 993—O
  tuberculous, in children, seashore and fresh air treatment of, 1628 ab
  tuberculous, in mesentery, surgical treatment of, 1467—ab
Glaucoma, acute, 67—ab, 1733—ab
  modern treatment of, 1826—ab
  simple chronic, miotics vs iridectomy in treatment of, 1389—O
Gliosis and vascular lesions of right centrum, progressive hemiplegia of left side due to, 1035—ab
Gloves and masks advisable in surgery? 1107—ab
  rubber, sterilization of, 1117—ab
Gluten flour and cresco flour in diabetes, 932
Glycogen in sputum and its diagnostic significance, 1561—ab
Glycerophosphates, elixir of, 933
Glycosuria, hypophysis, and diabetes mellitus in acromegaly, 1827—ab
  phloridzin, sugar excretion in, influence of cold and mechanical exercise on, 350—ab
Goiter: See also Exophthalmic Goiter
  congenital, 263—ab
  medical treatment of, 531—ab
  surgical treatment of, 531—ab
Gonococci, dead, injections of, in gonorrheal arthritis, 71—ab, 256—ab
Gonococcus arthritis, diagnosis of, and bacterial therapy, 44—E, 143—O
  vaccine in gonorrheal affections [illegible] 1419—O
  [illegible] treat- [illegible] ab, 1298—O, 1301—O
Gonorrhea, 432—ab, 705—ab
  acute epididymitis due to, operative treatment, 2001—ab
  congenital abnormalities of penis and their influence on, 160—ab
  epididymitis due to, operative treatment of, 161—ab
  in women, 533—ab
  iritis, due to, 627—ab
  presumedly cured, and marriage, 1925—O
  serotherapy of, 105—O
  sociologic aspect of, 1553—ab
  suction and irrigation treatment of, 1153—O
  urethritis due to, quick method of curing, 2081—ab
  vaccine therapy in, 1419—O
  vaccine therapy of, in female children, 169—ab, 1298—O, 1301—O
Gonorrheal affections, treatment of, 1907—ab
  arthritis, injections of dead gonococci in, 74—ab, 256—ab
  arthritis, serum treatment of, 674—O
  epididymitis, 77—ab
  joint affections, superheated air in, 447—ab
Gout, 2061—ab
  dietetic and physical treatment of, 954—ab
  modern treatment of, 953—ab
  pathogenesis of, 267—ab
  purin metabolism in, 868—ab
Gouty diathesis, treatment of, 85—ab
Grain to a drop, 1526
Granulations, healing of, under Scharlach R. salve, 1561—ab
Graser's operation for large umbilical and abdominal hernias, 264—ab
Gray, H., anatomist, 1533—ab, 1550—ab
Great Britain and America, rabies in, 1528—E
Grippe See Influenza
Grocco's sign, 1822—ab
Grocco's sign in pleurisy, 1472—ab
  in pregnancy, 1902—ab
Growth, standards for, in length and weight of new born, 629—ab
  energy, so called rhythms of, 232—ab
Gruels, 224
Guinea pig, transplantation of skin of, into different species, 158—ab
Guinea pigs infected with human, bovine, or avian tubercle bacilli, ocular tuberculin test in, 1901—ab
Gum arabic, in spinal anesthesia, 540—ab
Gunpowder grains, removal of, from skin, 1716
Gunshot wounds of abdomen, 1277
  of lung, treatment of, by primary suture, 1471—ab
Gurgling, expiratory, and palpation of normal pylorus, 356—ab
Gynecologic operations, development of technic of, 70—ab
  operations, necessity for diagnosis as preliminary step to, 1723—ab
  report from Hillcrest Hospital, N. H, 244—ab
  and obstetrics, examination and treatment under water in, 357—ab
  appendicitis in women and its importance in, 538—ab
Gynecology at Vienna, 1913—ab
  charts as aid in teaching, 707—ab
  compression therapy in, 149
  conservative, 450—ab
  crime of, 75—ab
  hospital, 70—ab, 623—ab
  office, 532—ab
  operations in, 1033—ab
  scopolamin morphin anesthesia in, 267—ab
  spinal anesthesia in, 716—ab
  teaching of, 70—ab, 531—ab, 708—ab
  vibrotherapy in, 344—ab

H

Hair dye, walnut juice, dermatitis following use of, 1035—ab
  eradication of, 1168
  nutritive and neurotic disturbances of, 279—O
Hallucinations, artificial auditory, in delirium tremens, 1559—ab
Hammer, percussion, 1010—O
Hams, miscured, nature and causes of taint in, 353—ab
Hands of laborers, lotion to soften, 499—ab
  surgery of, conservatism in, 1562—ab
Harper case, appeal in, withdrawn, 1436
Harrington, J, 1732—ab
Harvard medical school, new dean of, 1528
Hawaii as seen by a physician, 422—C
Hay-fever and asthma, and antral sinusitis, 352—ab
  intractable, and paroxysmal coryza resection of nasal nerve in, 171—ab
Head injuries, 869—ab
  lancinating pains in, in tabes dorsalis, 1913—ab
Headache of intracranial disease, 1035—ab
  treatment of severe forms of, 871—ab
  types of, 164—ab
Health and vacations, 134—E
  call to, 922—E, 945—ab
  during first year of life, beginning of training for, 1042—ab
  Education League pamphlets, 58
  in tropics, 712—ab
  inspection, value of, 431—ab
  national conservation of, 1874—E
  of man and plants, chemistry and effects of bituminous coal smoke on, 1815—ab
  of race, modern methods of education and their effects on, 429—ab
  of race, woman in modern business world as affecting, 429—ab
  of school children, means to promote, 942—ab
  officers, county, duties and opportunities of, 1715
  ordinances, satisfactory city, 935
  planks, public, Tennessee democratic convention adopts, 425
  producing diseases, 1517—E
  protection of, legitimate exercise of police power for, 1725—ab
  public national department of, 414—E, 521—O, 910—ab, 1462—ab, 1525—C, 1811—ab, 1812—ab, 1836—O, 1999, 2089—ab
Hearing, do we hear ourselves as others hear us? 78—ab
Hearing, impaired, and adenoids, responsibility of physician for future of child with, 1374—ab
Heart action, alternating, true nature of, 633—ab
  and central nervous organs, attempts to resuscitate animals by passing arterial blood through, 2196—ab
  and large blood vessels, percussion changes in diameter of, in febrile affections, 1562—ab
  action, interference with, by stooping, etc, 265—ab
  and liver, enlargement of, early symptom of tuberculosis, 1253—ab
  and menopause, 1741—ab
  and tobacco, 76—ab
  aneurism of, 371—O
  apparent enlargement of, 85—ab
  arrhythmia from point of view of myogenic theory, 1467—ab
  arrhythmias of, clinical study of, 1902—ab
  beat, safeguards of, 708—ab
  block in ventricular walls, 1816—ab
  clamping of large vessels near, in operative treatment of pulmonary embolism, 2097—ab
  compensation, failing, Karrell's milk diet and underfeeding in, 876—ab
  contractions, physiology of, 539—ab
  dilatation of, 1544—ab, 2189—ab
  disease, 1974
  disease and pregnancy, 1279—ab
  disease, and venesection, 747—O
  disease, baths and exercises in, 1036—ab
  disease, birth of undeveloped twins complicated by, 316—O
  disease, electrocardiograms in diagnosis of, 2012—ab
  disease, false, and functional cardiopathies, 1738—ab
  disease, thoracostomy in, 442—ab
  disease, treatment of, 1036—ab
  diseases, chronic, treated by carbonated mineral baths and exercise, 784—ab, 1110—ab
  diseases, *functional diagnosis and treatment of, 1911—ab*
  diseases, non valvular, 352—ab
  diseases, problem of, 1416—O
  diseases, symptomology of, 1043—ab
  dulness, *diminished area of, 871—ab*
  dulness, *diminished, value of, in diagnosis of cancer, 871—ab*
  fat, and allied conditions, peripheral action of active exercise on circulatory disturbances with, 1559—ab
  fibroelastomyxoma of, and casuistic study of tumors of heart, especially myxomas, 1913—ab
  functioning, office tests of, 1042—ab
  gallop rhythm of, 167—ab
  hypertrophy of, and contracted kidney, from standpoint of pathologic anatomy, 1559—ab
  hypertrophy of, arterial hypertension and hyperplasia of hypophysis and suprarenals, 796—ab
  in shock, 69—ab
  influence of chronic digitalis treatment on, 174—ab
  influence of salts and non electrolytes on, *350—ab*
  irregularities, 439—ab, 655—O
  left, hypertrophy of, characteristics of venous pulse in, with kidney heart and aortic insufficiency, 174—ab
  lesions in natives of Sierra Leone, 1821—ab
  method of outlining, with x ray, 1380—ab
  murmurs, transient, 1907—ab
  muscles, period of varying irritability, and refractory period in, 350—ab
  pregnancy and childbirth with congenital mitral stenosis, 712—ab
  primary tumors in, 1741—ab
  resuscitation of, by subdiaphragmatic massage, 1187—ab
  rupture of, 250—ab, 1280—ab
  simple mitral stenosis and dwarf growth, 873—ab
  size of, influence of occupation on, 174—ab
  stenosis of mitral valves of, and relative insufficiency of pulmonary valves, 2196—ab
  tonics, indications and contraindications for, especially digitalis, 1552—ab
  tonics, 250—ab, 1740—ab
  work of, and obstetrics and significance of blood pressure, 915—ab
  wounds, 1183—ab
Heat, artificial, and sun's rays, classification of effects of, *623—ab*

Heat, intense, muscular symptoms following exposure to, 1960—O
  stroke, cause of, 1793
Hebosteotomy compared with other procedures in management of labor in contracted pelvis, 2001—ab
Heidelberg surgical clinic for 1907, report of, 1910—ab
Hemaboloids, 1427
Hematoma sacral, 1808—ab
Hematomata cystic, postoperative menstrual, 81—ab
Hematuria complicating appendicitis, 1572—ab
  symptomless 1033—ab
Hemianopsia, bitemporal, after subsidence of epilepsy, 1824—ab
Hemiatrophy, trophic, complete, 2004—ab
Hemiplegia, apoplectiform, convulsions and rigidity in and to hemorrhage into ventricles 216—O
  progressive, left sided due to gliosis and vascular lesions of right centrum, 1035—ab
  respiration in, 795—ab
  superior alternate, Gubler Weber type, 1464—ab
Hemoglobin, determination and functional value of, 631—ab
  estimations point in use of Tallquist scale for, 1149—ab
Hemolysins, artificial, and blood production, 1383—ab
Hemolysis in cancer, 2162—E
  in cancer and tuberculosis, 2036—O
Hemolytic reactions in human cancer, 1903—ab
Hemophilia, pathologic anatomy of, 1738—ab
Hemophiliac affections of joints, 1380—ab
Hemophiliacs operations on, 541—ab
Hemoptysis 129—ab
  amyl and sodium nitrites in, 869 ab
  in tuberculous children, infrequency of, 915—ab
  value of, as symptom of early pulmonary tuberculosis, 1255—ab
Hemorenal index, 1253—ab
Hemorrhage adrenal in infants, 1964—O
  and ruptured ectopic pregnancy, 71—ab
  brain, extensive, duration of life after, 2101—O
  cerebral, and increased blood pressure, 2090—ab
  cerebral, toxemia in infant simulating, 1232—O
  following section of uterine and ovarian vessels in dogs and its possible bearing on ruptured pregnancies 1816—ab
  gastrointestinal, postoperative, 2195—ab
  hepatic, due to trauma, arrest of, 1731—ab
  in chronic metritis 89—ab
  in fatty capsule of kidney, 2097—ab
  internal, influence of, on chemical changes in organism 1033—ab
  into ventricles and convulsions and rigidity in apoplectiform hemiplegia 216—O
  intra abdominal, due to extrauterine pregnancy, time to operate in, 623—ab, 707—ab
  kidney, essential, 441—ab
  nasal, common source of, in persons previously healthy, 2004—ab
  postpartum physiology and pathologic physiology of arrest of, 447—ab
  Pulmonary See Hemoptysis
  use of fresh animal sera in, 432—ab, 437
  uterine, postclimacteric, due to relative hypothyroidism, 2157—O
  uterine, significance of, 1377—ab, 1903—ab
Hemorrhages, retinal, and high arterial pressure 1177—ab, 1733—ab
Hemorrhoids 131—ab
  excision of, 2058—O
  external, bloodless operation for, 756—ab
  new operation for, 2233—ab
  operative treatment of, 1537—ab
  patent remedies for, 931—ab
  relative merits of operations for, 992—O
Hemostasis, temporary, during removal of kidney calculi, 2099—ab
Hen resection and end to end anastomosis of oviduct in, without loss of function 1108—ab
Hepatic, Hepatitis See Liver
Heredity and inheritance, 2190—ab
  and social problems 1224—O
  explanation of theory of 1153—ab
  in cancer, 2190—ab
  in diseases of nervous system, 2189—ab, 2190—ab
Heredity in tuberculosis, 1253—ab, 1448—ab
Hernia complicated by gangrenous appendicitis, 754—O
  in linea alba, medical aspects of, 945—ab
  in sacrosciatic foramen, 356—ab
  incarcerated femoral, containing appendix, 1154—O
  inguinal, of uterus, 2008—ab
  inguinal pulmonary embolism after radical treatment of, 629—ab
  inguinal, treatment of undescended or maldescended testicle with, 1372—ab
  institute at Milan, 138
  internal strangulated, or internal intestinal strangulation, 1107—ab
  intra abdominal rotation of great omentum, unaccompanied with, 1107—ab
  of appendix, 1835—ab
  of bladder, 2097—ab
  of pelvic floor 1535—ab
  operations injuries to bladder during, 1458—ab, 1722—ab
  primary tuberculosis in, 1380—ab
  sac, anatomy and pathology of, 1111—ab
  sensitiveness in, 1431—ab
  sliding, 169—ab
  strangulated treatment of gangrene in, 171—ab
  through semilunar line, and direct inguinal hernia, 1377—ab
  umbilical, advantages of double flap method in radical operation for, 1286—ab
  umbilical, simplified operation for, 1822—ab
Hernias abdominal and umbilical, Graser's operation for, 264—ab
Hides sterilizing action of sunlight on, 663—ab
High altitudes, sweat secretions in, 101—ab
High frequency and x ray treatment of leprosy, 1112—ab
  currents, treatment of enlarged prostate by, 1890—ab
  discharges, disruptive, by reaction method, as therapeutic agent, 1890—ab
  electricity and hysteria, 2010—ab
Hip, dislocation, congenital, anatomy of, 343—ab
  dislocation, congenital and muscular rigidity, 356—ab
  dislocation, congenital, treatment of, 260—ab
  disease tuberculous, 261—ab
  disease, tuberculous, weight bearing and fixation by Lorenz short hip spica, in, 1625—ab
  dislocation, dorsal, reduction of, 1640—ab
  joint disease, treatment of, 1625—ab
  joint, intracapsular fracture of, operative treatment, 526—ab
  joint, non tuberculous bone infections about, 1184—ab
  joint, toxic arthritis of, in children, diagnosis and treatment, 2080—ab
  joint, tuberculous arthritis of, 1537—ab
  knee, and elbow joints, bony ankylosis of, operative treatment of, 431—ab
H stoplasm [illegible] ad infectious [illegible] kala azar, [illegible] ropical America, 1816—ab
  hominis, 1159—E
Hobbies of physicians, 850—E
Hodgkin's disease a type of sarcoma, further evidence in support of theory, 353—ab
Hoffa, Dr , not born in America, 144 C
Hoffa, late Professor, and chair of orthopedics, 51
Homeopathy, American institute of, 603
  of Hahnemann compared with that of to day, 793—ab
Honesty in advertising, 922—E
Hookworm, elimination of, reducing mortality in Philippines by, 1994—ab
Horns, human 1326—O
Hospital, accident, 236
  and professional anesthetist, 789—ab
  construction, 1818—ab
  gynecology, 70—ab, 623—ab
  histories 623—ab
  management, scientific aspects of, 1445—ab
  private, as municipal agent, 1445—ab
  privilege extends to physician in charge of, 1182
  work, layman's view of, 1445—ab
  work, loss to physician from, 244—ab
Hospitals and camps, consumptive, are they menace to neighborhood? 360—ab
  and medical education, in Great Britain, 771
  and university control, 1274—ab
  contagious disease, local rights regarding establishment of, 2185—ab
  corporations other than, prohibited from advertising to practice medicine, 2184—ab
  for consumptives, construction of, 1174—ab
  for insane, tuberculosis in, 1897—ab
  general, isolation of poor consumptives in, 1895—ab
  maternity, if they were more in favor, mortality and morbidity of child bearing women could be reduced, 623—ab
  public medicine, and medical studies, 1645—ab
Houses revolving, 849—E
Human element in medicine, 1901—ab
Humerus epiphyseal displacements of, treatment of, 74—ab
  fracture dislocation of, 74—ab
  fracture of, treatment of, 74—ab
  fractures of condyles of, 68—ab
  supracondyloid fracture of, reduction of, 1372—ab
Hydatid cysts of spleen, 873—ab
  cysts, prophylaxis of, 777—ab
  disease in long bones, 1114—ab
Hydramnios its etiology and significance, 786—ab
Hydrargyrum succinidum, 2075
Hydrastis, unofficial preparations of, 52—O
Hydrocele, treatment of, 1042—ab
Hydrocephalus cerebellar symptoms in, 1933—O
  epilepsy and tumors, puncture of corpus callosum in, 1042—ab
  extraordinary case of, 128—O
  of meningococcus origin 1819—ab
  of meningococcus origin, serotherapy in, 65—ab
  operative treatment of, 1115—ab
  subcutaneous continuous drainage of ventricles of brain in, 356—ab
  treatment of, in small children, 1909—ab
Hydrogen dioxid, influence of, on stomach secreting functions, 1910—ab
  test for blood in urine, 988—ab
Hydronephrosis in children and its treatment, 1733—ab
  plastic operations on kidney pelvis and upper segment of ureter for, 356—ab
Hydrolysis of vignin of cow pea, 1103—ab
Hydrophobia, 250—ab, 1280—ab
  failures in treatment of, causes of, 445—ab
  in Philippines, 2143—O
Hydrotherapy in childhood, 257—ab
  in scarlatina, 1304—O
  in treatment of insane, 1461—ab
  methods of application, 1428—O
Hygiene and diet of young children, 1454—ab, 2189—ab
  and sanitation domestic, municipal, national and international 869—ab
  compulsory study of, by teachers, 1358—ab
  education, Louisiana system of, 323—E
  in Canal Zone, 1022
  in China, 796—ab
  in tuberculosis, 249—ab
  of eye in school children, 623—ab
  of mouth, nose, pharynx, intestine, skin, mucous membranes, lymph-bodies, lungs, prevention of colds, 1895—ab
  school, international congress on, 340—ab, 612
  teaching of, in Great Britain, 612
Hymen, anatomy of, 534—ab
  development of, and external genitals of women, 1903—ab
Hyperacidity, gastric, origin of, 1381—ab
Hyperalimentation of consumptives, dangers of, 1554—ab
Hyperalgesia zones after injuries of skull, 449—ab
Hyperemia and hypertransudation, in chronic empyema, 1111—ab
  Bier's treatment by, 2188—ab
  clinical and experimental study of, 1822—ab
  constriction, 338—ab
  constriction, action of, on animals, 1557—ab
  constriction, another method of regulating pressure in 255—ab
  constriction, in meningitis, 86—ab
  experimental, in streptococcus infection in rabbit s ear, 1913—ab
Hyperemia in neuroses, 1462—ab
  in suppuration 1286—ab
  induced, in acute inflammations, 632—ab
  induced, in nasal affections, 718—ab
  induced, of brain, in incipient arteriosclerosis, 955—ab
  passive, action of, in animal experimentation, 264—ab
  passive, and cupping, in acute suppuration, 1640—ab
  passive, in inflammation, 1112—ab
  suction, in urology, 85—ab
  venous, in alopecia, 1389—ab
  with fresh air in complicated surgical bone tuberculosis in adults, 1510—ab
Hyperemic treatment not new, 1989—C
Hypernephroma of kidney, and tumors of adrenal origin 1160—ab
Hyperplasia of hypophysis, arterial hypertension hypertrophy of heart and suprarenals, 796—ab
Hyperpyrexia in children, 1920—ab
Hypersusceptibility to horse serum, 810—O
Hypertension, arterial, hypertrophy of heart and hyperplasia of hypophysis and suprarenals, 796—ab
Hyperthermia, significance of, 2097—ab
Hypertonia vasorum cerebri, 710—ab
Hypertransudation and hyperemia, in chronic empyema, 1111—ab
Hypnotics, 1082, 1335, 1697
Hypochondria, neurasthenia, hysteria and simulation, distinction between, 784—ab
Hypophysis and acromegaly, 1557—ab
  and pineal gland, functions of, 332—ab
  glycosuria and diabetes mellitus in acromegaly, 1827—ab
  hyperplasia of, hypertrophy of heart, arterial hypertension and suprarenals, 796—ab
  removal of, for adipose genital degeneration, 877—ab
  tumors in and acromegaly, 878—ab
Hypothyroidism, relative postclimacteric uterine hemorrhage due to, 2157—O
Hysterectomy, abdominal, for rupture of uterus, 2094—ab
  abdominal, technic of, 1563—O
  for cancer of uterus, immediate and remote results of, 2008—ab
  for menstrual reflex epilepsy, 1742 ab
  prolapse of rectum and sigmoid following, 1125—O
  repair of bladder and recovery, 1406—O
  supravaginal, preservation of ovarian tissue in, 75—ab
Hystereurynter, funnel shaped, 1115—ab
Hysteria, 1453—ab, 2189—ab
  and high frequency electricity, 2010—ab
  and neurasthenia, psychology of, 1377—ab
  as surgeon sees it, 1354—ab
  discussion on, before neurological society, 929—C
  insanity of, 69—ab
  neurasthenia, hypochondria and simulation, distinction between, 784—ab
  revised conceptions of, 537—ab
  treatment of 1470—ab, 2003—ab
Hysterical and neurasthenic conditions subsequent to accidents, 1806—ab
Hysteropexis hypogastria, 1553—ab
Hysteropexy, inguinal, 1561—ab

I

Ice, prolonged application of, to heart, reduction of fever by, 332—ab
Ichthyol, 758
Icterus, nerve nucleus, of infants, 799—ab
Idaho and Montana, recent investigations of Rocky Mountain spotted tick fever in, 1809—ab
  Rocky Mountain fever in, causal factors, mortality and geographical distribution of, 1809—ab
  state board April report, 153
  wise action in, 1622
Ideal in medicine, 868—ab
Ideals and ideas in medicine, 1186—ab
Idiosyncrasy to eggs 86—ab
Ileocolitis with autointoxication, 2156—O
Ileus, clinical manifestations of, 258—ab
  gall tone, 1471—ab
  treatment of, 258—ab, 356—ab

- Iliacus, psoas parvus and psoas magnus, tenotomy of, in spastic spinal paralysis, 1826—ab
- Iliopsoas and head of femur, abscess between, 2191—ab
- Illinois medical colleges in good standing, 154
  - medical news, 46, 135, 230, 324, 414, 505, 610, 681, 764, 851, 925, 1019, 1087, 1162, 1240, 1341, 1432, 1517, 1606, 1703, 1787, 1876, 1980, 2065, 2165, 2222
  - psychopathic institute of, 503—E
  - public health laws in, 1036—ab
  - state board April report, 242
  - state board July report, 1101
  - state board June report, 1099
  - state board May report, 519
  - treatment of pulmonary tuberculosis in, 141—ab
- Illness caused by bacillus paratyphosus and its pathologic appearances, 1652—ab
  - what constitutes, and consultation of physician, 1370
- Illumination, artificial, of school rooms, 1905—ab
- Imagination, rôle of physician in producing or maintaining maladies derived from, 1374—ab
- Imbeciles, legal restraint of, 534—ab
- Imbecility and crime and legal restraint of imbeciles, 534—ab
- Immunity in lymphosarcoma in dogs, 251—ab
  - phagocytic, and therapeutic injection of dead bacteria in endocarditis, 1571—O
  - production by inoculation of increasing numbers of bacteria, 1446—ab
  - tuberculin, 1912—ab
- Immunization against tuberculosis, 791—ab, 1188—ab, 1446—ab 1447—ab
  - army, against typhoid, 2063—E
  - therapeutic, 80—ab
  - therapeutic, in mixed infection, 571—O
- Impulse, disturbances in condition of, to auricle, 2097—ab
- Inaugural symptoms, 2234—ab
- Incidence, definition of, 2229
- Incineration in military stations, 796—ab
- Incisions, vaginal, vertical abdominal, and Pfannenstiel, 912—O
- Index, 2220—E
  - to current literature, 229—E
- India, cholera in, 234
  - decline of plague in, 685
  - diploma mills in, 1718
  - Pasteur institutes in, 2154—ab
  - typhoid carriers in, 1436
- Indiana medical news, 47, 136, 230, 324, 414, 506, 611, 765, 1087, 1162, 1341, 1518, 1703, 1788, 2165, 2222
  - state board May report, 696
- Indians, refraction in, fresh from plains, 308—O
- Indicanuria and intestinal putrefaction, 1636—ab
- Indigestion, rational treatment of, 1723—ab
- Indigo carmine and methylene blue tests for kidney function, 1885
  - methylene blue and sodium carminate, kidney secretion of, 1108—ab
- Inductorium, calibration of, for break shocks in faradic stimulation, 350—ab
- Industrial evils, 2188—ab
- Infancy and childhood, care of mouth during, 2186—ab
  - and childhood, tuberculosis in, diagnosis of, by skin inoculation of diluted tuberculin, 1627—ab
  - digestion and nutrition in, 1285—ab
  - obscure fever in, 347—ab, 869—ab
  - pneumonia in, diagnosis of, 285—O
- Infant See also Infants
  - adjustment of spectacle frames for, 1565—ab
  - aged four months, spasmodic stricture of esophagus in, 156—ab
  - anorectal imperforation in, surgical treatment of, 1640—ab
  - binders, dangers of, 172—ab
  - development of stomach of, 1750—O
  - feeding, advances in, 440—ab
  - feeding, artificial, fallacious standards employed in, 1214—O
  - feeding, artificial need for, 75—ab
  - feeding, breast, importance of, for reduction of infant mortality and means to promote it, 1473—ab
  - feeding, criteria and standards in, 440—ab, 1687—O
  - feeding, importance of starches in, 1630—ab
  - feeding, high fat percentages in, 1219—O
  - feeding, kefir in, 632—ab
  - feeding, skimmed milk in, 709—ab
  - four days old, tetany in, 755—O
- Infant, gangrene of extremities in, 867—ab
  - healthy, feeding of, 101—O
  - injuries in, produced by attempted artificial respiration, 2002—ab
  - kidney lesions in, 257—ab
  - kidney lesions in, pathologic aspects of, 257—ab
  - mortality, 929—C, 1045—O, 2218—ab
  - mortality, causes of, 1469—ab
  - mortality, importance of breast *feeding for reduction* of, and means to promote it, 1473—ab
  - new-born, circumcision in, simple method of, 156—ab
  - new born, *fractured femur* in, 79—ab
  - new born, habitual malignant jaundice in, 2011—ab
  - hemorrhagic diseases of, 2215—O
  - new born, imperforation of lachrymonasal duct in, its clinical manifestations, 188—O
  - new born, paratyphoid and melena in 261—ab
  - new born, trachael insufflation in, 1645—ab
  - new born, weight of, in relation to weight of placenta, 78—ab
  - nutrition, available alkali in ash of human and cow's milk in relation to, 1033—ab
  - stools, hard curds *of*, origin, nature and transformation, 247—ab
  - toxemia in, simulating cerebral hemorrhage, 1232—O
  - training of, 1042—ab
- Infantile convulsions, prognosis of, 1736—ab
  - digestion, 2125—O
  - dystrophy of muscles, congenital muscular defects and infantile disintegration of nuclei, 1115—ab
  - paralysis, 1677—O, 1946—O, 2060—ab
  - paralysis, epidemic, 112—O
  - paralysis, nerve anastomosis in, 348—ab
  - paralysis, treatment of, 73—ab
  - paralysis, treatment of deformities of, 1642—ab
  - scurvy, 257—ab
- Infants, adrenal hemorrhage in, 1964—O
  - and children, diabetes in, 1376—ab
  - and children, tuberculous lesions in, study based on post mortem examinations, 1368—ab
  - atrophic, plan of dealing with, 246—ab, 867—ab
  - cardiospasm as cause of habitual vomiting of, 1043—ab
  - carrot soup in digestive disturbances in, 955—ab
  - diarrheal affections of, character of stools, with reference to intestinal findings in, 1306—O
  - diseases, progress in study of, 1647 ab
  - epidemic diarrhea in, 1189—ab
  - fed on foods rich in albumin, toxicity of urine and stools and intestinal putrefaction in, 360—ab
  - fighting tuberculosis by caring for, 1246
  - healthy and sick, daily variations in body temperature in, 1116—ab
  - infections and intoxications in, characteristics of, 1555—ab
  - infusion of sugar and salt solutions in, 630—ab
  - method of treating fracture of femur in, 711—ab
  - opsonic index in, 80—ab
  - pneumonia in, ambulatory treatment of, 286—O
  - pyloric spasm and congenital hypertrophic stenosis in, 708—ab
  - pyloric stenosis in, 338—ab, 353—ab, 532—ab
  - pyloric stenosis in, recognition and internal treatment, 2197—ab
  - skin reaction to tuberculin in, 540—ab, 1912—ab
  - stools, casts of, 421—ab
  - tuberculosis in, 1365—ab
  - tuberculosis in, human contagion as factors in, 1367—ab
  - urinary findings in, suffering from intestinal infection, 248—ab
  - with inherited syphilis, brain findings in, 1912—ab
  - with inherited syphilis, serodiagnosis in mothers of, 876—ab
- Infection, air of minor importance, 2048—O
  - and asepsis, influence of, on technic of delivery by Cesarean section, 1648—ab
  - avoidance of, during intestinal anastomosis, 1731—ab
  - by upper air passages and digestive tract, 1651—ab
  - in tuberculosis, 72—ab
  - marital, in tuberculosis, 848—E
  - of operative wounds by malignant disease, 748—O
- Infection pneumococcus, parotitis from, 178—ab
  - puerperal, 250—ab
  - puerperal, etiology and treatment of, 338—ab
  - puerperal, fixation abscesses in, 2235—ab
  - transmission of, from puerpera to child, 632—ab
  - tuberculous, opportunities for, 1254—ab
  - what constitutes, and death after fall against timbers, 705—ab
- Infections, acute, *of* female pelvic organs, treatment of, 169—ab
  - and intoxications in infants, characteristics of, 1555—ab
  - of kidney, acute unilateral hematogenous, 353—ab
  - surgical, vaccine therapy in, 2089—ab
- Infectious diseases and milk, 1491—O
  - complement, fixation in, 1911—ab
  - joint affections caused by, 868—ab
  - house fly in *dissemination of*, 1108—ab
  - what should be taught regarding dangers of, in first aid courses? 356—ab
- Infective processes, influence of nervous system *on*, 2093—ab
- Inflammation, acute, hot air in, 1827—ab
  - influence of colored light on, 1559—ab
  - passive congestion in, 1112—ab
  - *treatment of*, 1468—ab
  - serous, rheumatic origin of, 2235—ab
  - tumors from, 1646—ab
- Influenza and appendicitis, 449—ab
  - and influenzal pneumonia, 1816—ab
  - and pneumonia, relation of anti cyclonic weather to prevalence of, on *northern hemisphere*, 660—O, 1281—ab
  - aural complications of, and their treatment, 1468—ab
  - cerebral, 79—ab
  - diagnosis from morphologic standpoint in stained specimens of sputum, 166—ab
  - epidemic of, etiology of, 1903—ab
  - followed by nasal accessory sinus complications, 1456—ab
  - measles and whooping cough, and tuberculosis in children, 1366—ab
  - therapeutics of, 76—ab
- Information bureaus, free, for physicians abroad, 1167
- Infusion, adrenalin saline, intravenous, efficacy of, 266—ab
- Ingluvin, report of Council on Pharmacy and Chemistry, 142
- Inguinal canal, exploration of, 1555—ab
- Inheritance and heredity, 2190—ab
  - of certain abnormalities, 262—ab
  - of susceptibility to inoculable tumor, 253—ab
- Injection and dietetic method, of treating typhoid, 792—ab
  - intravenous, of blood corpuscles of foreign species, cause of sudden death following, 1903—ab
- Injections, intrauterine, dangers and usefulness of, 1647—ab
- Injured person, fatally, unconscious, claims of specialist called in to operate on, 2000
- Injuries causing neurasthenia, damages for, or general breakdown, 1459—ab
  - from fright and indirect physical impact, 254
  - from lightning and electricity, 715—ab
  - minor, 1643—ab
  - severe, pleural adhesions in, 1897 ab
- Injury, damages for, to bad leg, 1370
  - miscarriage caused by, damages recoverable for, 2087
- Insane asylum, outbreak of epidemic dropsy in, 1737—ab
  - delusions, and demand of change in declaration as to monomania, 1999
  - hydrotherapy in treatment of, 1461—ab
  - institutions for, special training for attendants in, 132—E
  - legal relations concerning, 1815—ab
  - mental processes, sane prototypes of, 163—ab, 2187—ab
  - physiologic significance of first lesson in, 2233—ab
  - reflexes in, 624—ab
  - serodiagnosis of syphilis in, 2008—ab
  - tuberculosis in hospitals for, 1897—ab
  - women, operation for relief of pelvic diseases in, 70—ab
- Insanity and dementia præcox, confusional, 164, 1553—ab
- Insanity as world sees it, 1726—ab
  - caused by acute and chronic intox *ications* with opium and cocain, 97—O
  - hysterical, 69—ab
  - physician declining to testify as expert on, fees for experts—1030
  - what is constituted in? 259—ab
- Insects in epidemiology of plague, (28—ab
- Insomnia, 1155—ab
- Instrument, ear speculum with handle, 1330—O
  - for estimation of albumin in urine, 1511—O
  - reverse antrum forceps with sphenoid punch attachment, 1233—O
  - tonsil forceps, 1696—O
  - uterine tenaculum, 1695—O
- Instruments, two practical, for kidney surgery, 1327—O
- *Insufflation* of air in pleural effusion, 1380—ab
  - trachoel, in new born infants, 1646—ab
- Insurance against industrial accidents, 58—ab
  - life, associations, institutions operated by, 1896—ab
- Intellectual influence, and medical training, 605—E
- International institute, 2071—O
  - sanitary office, 1794
- Interstate traffic in drugs, bills regulating, 689—C
- Intestinal affections, meat in, 59—ab
  - anastomosis, 546—O
  - anastomosis, avoidance of infection during, 1731—ab
  - anastomosis of mucosæ with rubber sutures 359—ab
  - canal, flushing, with salt solution through multiple enterotomy openings, 260—ab
  - *fermentation, dyspepsia from*, 174—ab
  - infection, infants suffering from, urinary findings in, 248—ab
  - intoxications, 712—ab
  - obstructions, 250 ab, 700 ab, 1629 ab
  - obstruction, acute, early recognition and operation in, 1553—ab
  - obstruction, acute, enterostomy and conservative operations for, 74—ab
  - obstruction, acute, principles underlying treatment of, 1549—ab, 1643—ab
  - obstruction, acute, treatment of, 344—ab
  - obstruction, by gauze sponge, 841—O
  - obstruction, mechanical, 1808—ab
  - obstruction with chronic peritonitis, 719—O
  - obstruction, with tuberculosis or tuberculous peritonitis, 1629—ab
  - putrefaction and indicanuria, 1636—ab
  - tears following unoperated appendiceal abscesses and their medicolegal relations, 624—ab
- Intestine and stomach disturbance, commonly overlooked causes for, 1280—ab
  - and stomach gases, 1462—ab, 1549—ab
  - aseptic operations on, 1040—ab, 2095—ab
  - cancer of, and foreign bodies, 2003—ab
  - deprived of its mesentery, omentopexy to, 1105—ab
  - functioning of, tests of, and their results, 175—ab
  - gas cysts of, 1291—O
  - hygiene of, 1895—ab
  - internal strangulated hernia of, or internal intestinal strangulation, 1107—ab
  - invagination of, 629—ab
  - large, colectomy for, cancer of, 629—ab
  - large, congenital backward displacement of, 1286—ab
  - large, physiologic importance *of* various segments of, 448—ab
  - Obstruction of. See Intestinal Obstruction
  - of man, amebas in, 256—ab
  - paroxysmal excessive secretion *of* mucus of, 953—ab
  - postoperative spastic occlusion of, 2012—ab
  - restoration of continuity in, following formation of artificial anus, 1186—ab
  - small, invagination of limited annular gangrene of, versus resection, 472—O
  - *streptococcus infection* of, 1236—E
  - tuberculosis of, primary, in adults, 1560—ab
  - fatal, following serotherapy, prevention of, 1158—E

- Intoxication, ileocolitis with, 2156—O
  - from quinin 267—ab
- Intoxications and infections in infants characteristics of, 1555—ab
- Intrapulmonary positive pressure, methods for maintenance of, 2193—ab
  - positive pressure, operations under, 801—O, 805—O, 808—O, 2193—ab
- Intubation and oxygen for resuscitation after apparent death, 2198 ab
  - arteriovenous, angiosclerotic gangrene treated by, 631—ab
- Intussusception, 250—ab, 1552—ab
- Iodalbin 1427
- Iodin and blood viscosity of, 873—ab
  - and thyroid 73—ab
  - reduction of size of scar by application of 956—ab
- Iowa medical news, 47, 230 306, 765, 1020, 1320, 1341, 1432, 1607, 1788, 2165, 2222
  - state board May and June reports, 1595
  - state board October reciprocity report, 2086
  - state board September report, 2086
- Ipecac, keratinized capsules of, 1885
- Ireland, lunacy in, 612
  - tuberculosis in, crusade against, 50
  - typhoid in, 776
- Iridectomy, vs miotics, in simple chronic glaucoma, 1389—O
- Iridocyclitis, sympathetic, treatment of, 1188—ab
- Iritis 130—ab
  - gonorrheal, 627—ab
  - hypopyon, and septicemia with acute fibrinopurulent pericarditis caused by meningococcus 1903—ab
- Iron, 2083—ab
  - beef and wine, 1025
  - citrate (soluble) and bismuth, 2160
  - remedies, use and misuse of, 1735—ab
- Irrigation and drainage of bladder, prolonged, after prostatectomy, device for, 948—ab
  - rectal in typhoid, 73—ab
- Irritability, varying, and refractory periods in heart muscles, 350—ab
- Ischemic contracture with secondary ulnar neuritis result of brachial thrombosis, 2059—O
- Ischochymia, 1183—ab
  - simulating gallstone disease, 441—ab
- Islands of Langerhans, two adenomata of, 1075—O
- Isopral *chloral hydrate and bromural*, dosage and effects of, on cats, 487—O
- Itching, causes and treatment, 1466—ab

J

- Jalap 129
- Jaundice, acute infectious, 345—ab
  - catarrhal 606—E
  - malignant, in new born infants 2011—ab
  - severe, two cases of 174—ab
- Jaw cancer of cheek involving, operation in, 1730—ab
  - lower, ivory or rubber substitute for, after exarticulation 358—ab
  - lower, osteoplastic substitution after *resection of*, 2099—ab
- Jaws ankylosis of 715—ab
- Jews as German *army surgeons*, 930—C
- Jireh diabetic foods 1799
- Joint affections caused by infectious diseases 868—ab
  - affections in children, 690—ab
  - affections, scarlatinal 874—ab
  - bony ankylosis of, transplantation of periosteum in, 1892—ab
  - disease, cause of atrophy in, 343—ab, 1553—ab
  - disease, tuberculous, influence of weight bearing on, treatment of, 342—ab
  - sacroiliac, relaxation or strain of, 1734—ab
  - tuberculosis in children, seashore and fresh air treatment of, 1628—ab
  - tuberculosis, Marmorek's serum in, 342—ab, 1553—ab
  - tuberculosis, treatment of, 709—ab
  - tuberculosis, x ray diagnosis of, 1519—ab
- Joints and bone syphilis of, 947—ab
  - and bones tuberculosis of, how Minnesota cares for its indigent children with 1511—ab
  - clinical and medicolegal significance of slight trauma to, 2211—O
  - hemophilic affections of, 1380—ab
  - knee hip and elbow, bony ankylosis of, operative treatment of, 431—ab
  - non tuberculous diseases of, present understanding of, 162—ab, 1551—ab
- Joints, operation to stiffen, 1040—ab
  - plastic operations and transplantation of, 1040—ab
  - resection of, 447—ab
  - sacroiliac, mechanical lesions of, 343—ab
  - transplantation of 85—ab 1040—ab
- Journal A M A, bound volumes of—proposition on which comments are desired, 2174—C
  - state, Maryland established, 146

K

- Kalaazar, histoplasmosmosis, fatal infectious disease resembling, found in tropical America, 1816—ab
  - intralobular cirrhosis of liver produced by protozoal parasite of, 1038—ab
- Kansas City Medical Society, 710—ab
  - systematic organization in, 55
- Kansas medical news, 47, 765, 1877
- Kefir in infant feeding, 632—ab
- Kentucky medical news, 47, 325, 411, 506 765 851 925 1162, 1341, 1433, 1518, 1788, 2165, 2222
  - problem and college mergers, 610—E
  - state board July and August reports 1443
- Kephir and koumys, 860
- Keratitis diffuse interstitial in acquired syphilis, 292—O, 1905—ab
- Kidney, acute unilateral hematogenous infections of, 353—ab, 2090—ab
  - and ureter calculi in, x ray diagnosis of, 169—ab
  - and ureter, surgery of, 2090—ab
  - and ureter, complete extirpation of, in women for renal tuberculosis, 459—O
  - atrophy of, with fistula in ureter, 1739—ab
  - calculi, diagnosis and treatment of, 1905—ab
  - calculi, temporary hemostasis during removal of, 2099—ab
  - calculus 1633—ab
  - calculus, diagnosis and treatment of, 353—ab
  - calculus, prevention of recurrence, 2195—O
  - calculus, tuberculosis, and perinephric abscess, 353—ab
  - cells, in diuresis histologic appearance, in secretion of, 1802—ab
  - contracted, and hypertrophy of heart from standpoint of pathologic anatomy, 1559—ab
  - cystic degeneration of, 1033—ab
  - decapsulation, in nephritis, 1740—ab, 1909—ab
  - decapsulation, in puerperal eclampsia, 261—ab
  - disease, chromocystoscopy in diagnosis of, 2005—ab
  - disease, diagnostics and treatment of, 1193—ab
  - disease during pregnancy, labor and puerperium 1281—ab
  - disease, lumbago simulating, 1732—ab
  - excretory efficiency of, determination of, 256—ab
  - functioning, indigo carmine and methylene blue tests for, 1885
  - functioning, phloridzin test of, 177—ab
  - functioning tests of, 87—ab, 1741—ab, 1827—ab, 1885
  - functioning, tests of, in children, 2191—ab
  - *granular* 1038—ab
  - heart and aortic insufficiency, characteristics of venous pulse in hypertrophy of left heart with, 174—ab
  - hemorrhage, idiopathic, 441—ab
  - hemorrhage in fatty capsule of, 2097—ab
  - hypernephroma of, and tumors of adrenal origin, 1460—ab
  - infarction of cortex of, in pregnancy, 1816—ab
  - inflammation of, symptoms, diagnosis and medical treatment of, 1546—ab
  - inflammatory diseases of, surgical treatment of, 1516—ab
  - in tuberculosis of lungs 1450—ab
  - lesions in infant, 257—ab
  - lesions in infant, pathologic aspects of, 257—ab
  - lipoma of, 2000—ab
  - movable, 245—ab, 2091—ab
  - movable, and associated visceral ptoses, corset for, 1566—O
  - movable, shelf operation for, 2006—ab
  - neoplasms of, 1546—ab
  - of pregnancy, dropsy and normal pregnancy, and pathogenesis of eclampsia and, 1647—ab
  - origin of vesical calculi, 885 O
  - pelvis and upper segments of ureter, plastic operations on, for hydronephrosis, 356—ab
  - pelvis suppuration of, symptoms in, 1181—ab
  - recurrent liposarcoma of, 251—ab, 1303—ab
  - region, traumatic diffusion of urine in, 173—ab
  - results of operation on, for tuberculosis and calculus, 353—ab
  - right, appendicitis and ureteral irritation, coexistence of symptoms of, 1727—ab
  - secretion of indigo carmin, methylene blue and sodium carminate, 1108—ab
  - substance, influence of reduction of, on nitrogenous metabolism, 1184—ab
  - suprarenal tissue in, experimental transplantation of, 355—ab, 2095—ab
  - surgery, 1535—ab, 1550—ab, 1634—ab, 2091—ab
  - surgery, two practical instruments for use in, 1327—O
  - transmission of pressure from bladder to, 504—E
  - trauma of, and impaction of pubic arch in bladder with multiple *fractures of pelvis and femur*, 948—ab
  - tuberculosis and septic conditions of, diagnosis and prognosis of, 791—ab
  - tuberculosis of, 875—ab, 1194—ab, 1541—ab
  - tuberculosis of, experimental, with ligated ureter 359—ab
- Kidneys and adrenal system, 875—ab
  - and ureters operations on, 167—ab
  - typhoid localized in, 2100—ab
- Kindergarten status of, 247—ab
- Kipling and physicians, 1719—ab
- Knee, fibrous ankylosis of, 430—ab
  - hip and elbow joints, bony ankylosis of, operative treatment of, 431—ab
  - joint osteosarcoma of, 622—ab
  - joint, relaxed 167—ab
  - *joint, synovitis of, as late mani*festation of acquired syphilis, 1901—ab
  - when is bony union complete after excision of? 430—ab
- *Knowledge limits of, 1820*—ab
- Koch endowment, 328
- Koch at Antipodes 418
- Koumys and kephir, 860
- Kreatin Kreatinin See Creatin, Creatinin
- Kugel s operation for occlusion of pupil, *1440*

L

- Labor, abnormal, management of, 249—ab
  - and pregnancy following ventrosuspension of uterus for retrodisplacements 707—ab
  - and pregnancy, surgical necessities during, 625—ab
  - at full term traumatic rupture of uterus and bladder during, 1406—O
  - death of mature fetus in, 77—ab
  - in contracted pelvis, hebosteotomy vs other procedures in management of 2001—ab
  - management of in minor degrees of pelvic contraction and indications for abdominal Cesarean section *167—ab*
  - management of stages of, to prevent dystocia 1279—ab
  - normal preparation of patient for, 1353—ab, 2189—ab
  - obstructed methods of operation in, 1033—ab
  - ovariotomy performed during, 2094—ab
  - pregnancy and puerperium, kidney disease during 1281—ab
  - surgical necessities following, 625 ab
- Laboratory and clinical work, combining, 2163—E
  - feeding, modern, and range of resources it provides, 1376—ab
  - method, less than method of Sydenham 1462—ab
  - methods modern, value of, for practitioner, 169—ab
  - state public health, approved, 341—ab
  - work limitations of, 1805—ab
- Labyrinth, non suppurative involvement of, in mumps 1901—O
  - reactions of, in diagnosis of suppurative labyrinthitis 1754—O
- Labyrinthitis suppurative, *reactions* of labyrinth and their significance in diagnosis of, 1754—O
- Lactation abnormal, 1839—O
  - and menstruation, 82—ab
  - long, 495—O
  - long retained capacity for in nonnursing mothers, 82—ab
- Lake Michigan water commission, 138
- Lancet, student's number, 1111—ab
- Landlord *not liable for requiring* person with erysipelas staying with janitor to leave, 254
- Lantern slides of contagious diseases, 692, 1619
- Laparotomies, allowing patients to get up early after, 1561—ab
  - one hundred, without a death in country practice, 1374—ab
  - phlebitis and embolism after, 127—ab
  - preparation of patients for, 176—ab
- Laparotomy, abdominal supporters after, 1159—ab
  - care of patients after, 834—O
  - mobility of patient after, 1355—ab
  - plea for early exploratory, in stomach diseases of doubtful nature, 624—ab
  - preparatory and after treatment of, 739—O
  - to hasten recovery after, by allowing patients to leave bed early, 355—ab
- Laryngectomy *for* carcinoma of larynx, 1072—O
- Laryngismus stridulus, 1826—ab
- Laryngitis tuberculous, prognosis and *treatment*, 1818—ab
- Laryngology, otology and ophthalmology, journals on, 2075
  - rhinology and otology, borderline of, 361—O
- Larynx and ear complications of typhoid, 1155—ab
  - and pregnancy, 716—ab
  - crises of, and paresis of abductors of vocal cords, 815—O
  - diphtheria of, 342—ab
  - laryngectomy for carcinoma of, 1072—O
  - method of facilitating operations in, 535—ab
  - recurrent and abductor paralysis of, 865—ab
  - singers' nodules in, etiology and treatment of, 1040—ab
  - stenosis of, treatment of, including intubation by dorsal method, 621—ab
  - tuberculosis of 866—ab
  - tuberculosis of, type capable of recovery, principles of treatment, 1256—ab
- Laudanum and starch enema, formula of, 1619
- Lavage and inflation of stomach, rapid method of test meal removal, 1280—ab
  - gastric, and test meal removal, de [illegible] 73—O
- L [illegible] 2001—ab
  - [illegible] oviding for detention and treatment of habitual drunkards as persons of unsound mind, 1814—ab
  - new, campaign for, inaugurated in Pennsylvania, 618
- Layman clinician, and pathologist, correlation of, 191—O
- Lead poisoning, cause of, in tinning of metals, 2191—ab
  - insidious, 677—E
- Lecibrin, 1427
- Lecithin, action of, in exophthalmic goiter, *1464*—ab
  - and general anesthesia, 1117—ab
  - glycerole of, 1337
  - solution, 1337
- Leg See also Legs
  - bad damages for injury to, 1370
  - oblique and complicated fractures of, 1272—ab
  - or arm, what is covered by term, expert evidence excluded, 1547—ab
- Legal rights, and tuberculosis, 1357—ab
- Legislation, antituberculosis, notable, 228—E
  - education and public health, 710—ab
  - state and medical, 433—ab
  - workmen's compensation, in Holland, 1243
- Legs and arms, intermittent limping in, 1741—ab
  - malingering and functional paresis of, detection of, 1309—O
- Lemonade and *chlorin, calomel* with, 1885
  - sciatica from, 1051—ab
- Lens crystalline, developmental deformities of, 1051—O
- Leprosy, cure of, 677—E

Leprosy, Franco-Danish mission for study of, 1708
  rat, 1153—O
  second conference on, 513—C
  x-rays and high-frequency in, 1112-ab
Lesions, mechanical, of sacroliac joints, 343—ab
Letter brokers and confidences of gullible, 2164—E
Leucocyte ferment, proteolytic, importance of, in pathologic physiology, 2099—ab
  extracts, anti-infectious power of, 2062—E
  resistance line, Sondern's differential in diagnosis and prognosis of acute appendicitis, 625—ab
Leucocytes in diphtheria before and after administration of antitoxin, 1186—ab
  neutrophile, Arneth's classification of, and its application in pulmonary tuberculosis, 2006—ab
Leukanemia, 1550—ab
Leukemia, acute lympatic, and chloroma, pathology of diseases, 262—ab
  acute lymphopenic lymphatic, 1720-ab
  lymphatic, 699—ab
  lymphatic, cirrhosis of liver following, 539—ab
  myelogenous, and its treatment with x-ray, 708—ab
  nature and treatment, 356—ab
  temporary improvement in, under tuberculin, 174—ab
Leukoplakia of mouth, differential importance of, 445—ab
Levulosuria, alimentary, 177—ab
Liability for mere fright or shock, Ohio against, 1729—ab
  of charitable corporations for acts of agents or servants, 2232
  of corporation for employment of physician by president, 436
Libraries, medical, for smaller centers, 793—ab
License, revocation of, for criminal abortion, 788
Liebreich, Oscar, 613
Lichen planus annularis, 128—O
Liégeois, Professor, death of, 929—C
Life, country, work of national commission on, 1616—C
  duration of, after extensive hemorrhage of brain, 2101—O
  early, chronologic and anatomic age in, 1197—O
  everyday, rationalization in, 2187—ab
  human, cheap commodity, 763—E
  insurance, medical examiner for, 2091—ab
Ligament, round, fibromyoma of, 1469—ab
Ligaments, round, intraperitoneal shortening of, 1561—ab
  round, shortening, and operations of ventrofixation of uterus, 2001-ab
  round, tumors in, 1287—ab
Ligation, experimental, of abdominal aorta, 799—ab
  of umbilical cord, 917—O
Ligature, elastic, advantage of, in anal fistula, 1107—ab
Light and moving air baths, in general affections with, 1470—ab
  artificial, diagnosis under, 1552—ab
  colored, influence of, on inflammation, 1559—ab
  radiant, possibilities of, 1890—ab
Lightning and electricity, *injuries* from, 715—ab
  treatment of cancer, influence of, on vitality of cells, 1474—ab
Limbs, frequency of necrosis of, after ligation of large trunk vessels, 797-ab
  organs and blood-vessels, transplantation of, 1662—O
Lime and magnesium deposits, solvent action of sulphocyanates on, in system, 621—ab
  in origin and treatment of convulsions, 1743—ab
  metabolism and tendency to spasm in children, 874—ab
  workers, tuberculosis in, 2093—ab
Limping, intermittent, *in arms and* legs, 1741—ab
Linea alba, hernia in, 945—ab
Lip reading for partially deaf, 722—ab
Lipoidemia, diabetic, 1823—ab
Lipoma of kidney, 2000—ab
Lipomata, retroperitoneal, 81—ab
Lipomatosis, symmetrical, 538—ab
Liposarcoma, recurrent, of kidney, 251—ab, 1903—ab
Lithium citrate and bismuth (soluble), 2219
Liver abscess, amebic, an easily preventable disease, and postoperative sepsis an important lethal factor, 1821—ab
  abscess tropical, is dysentery sole cause of? 1821—ab
Liver abscess, tropical or amebic, a preventable disease, 1907—ab
  abscess, tropical, prevention of, 349—ab
  acute yellow atrophy of, in pregnancy, 1871—ab
  affection, syphilitic, protracted fever in, 1193—ab
  affections, diagnosis of, 876—ab
  amebic inflammation of, presuppurative stage of, prevention of tropical abscess of liver by early diagnosis and treatment of, 349—ab
  and heart, enlargement of, early symptom of tuberculosis, 1253—ab
  arrest of hemorrhage from, due to trauma, 1731—ab
  chloroform necrosis of, 1462—ab
  Cirrhosis of: See Cirrhosis
  cough, 1562—ab
  effects of alcohol on, 514—ab
  epithelioma of, with cirrhosis of liver, 1384—ab
  inflammation of, and lymphangitis and *perilymphangitis in*, 73—ab
  in tuberculosis, 1449—ab
  primary sarcoma of, 800—ab
  resection of portion of, 1555—ab
Lloyd's specific, report of Council on Pharmacy and Chemistry on, 1794, 1986
Loco-weed disease, barium a cause of, 1338—E
London, dangers of motor traffic in, 235
  healthy, 139
  letter, 50, 234, 328, 418, 510, 612, 685, 770, 854, 928, 1022, 1093, 1167, 1244, 1345, 1436, 1522, 1611, 1707, 1793, 1983, 2960, 2169
  port of, sanitary work of, 50
Lotion to soften hands of laborers, 499—ab
Louisiana medical news, 47, 415, 507, 1088, 1162, 1704
  new medical practice act in, 935
  reciprocity regulations in, 1351
  sanitary work in, 58—ab
  state board May report, 153
  state board October report, 2085
  system of hygienic education, 323—E
Lumbago simulating kidney disease, 1732—ab
Lumbar-puncture, diagnostic value of, in acute tuberculous meningitis of children, 1627—ab
  in diagnosis and therapeutics, 1566—O
  in epilepsy, 777—ab
  technic and value of in differentiating tuberculous meningitis from epidemic variety, 1819—ab
Lunacy in Ireland, 612
Lung affections following accident, 84—ab
  affections, unilateral higher temperature in, 1650—ab
  and chest wall, operative mobilization of in treatment of unilateral pulmonary phthisis, 1116—ab
  and esophagus, fistula between, 1114—ab
  complications, postoperative, of nature of embolism, 1556—ab
  emphysema, operative treatment of, 83—ab
  gunshot wounds of, treatment by primary suture, 1471—ab
  massive collapse of, 2005—ab
  release of, and total mobilization *of* wall of thorax, in unilateral *pulmonary* tuberculosis by, 1909—ab
  rest of, in pulmonary tuberculosis, 1895—ab
  syphilis of, in adults, 268—ab
  tuberculosis of, corn oil in, 39—O
  tuberculous, influence of artificially induced pneumothorax on, 1558—ab
Lungs and pleura, tuberculosis of, surgical aspects *of, 1365—ab*
  effects of quebrachin on, 1593—O
  Hemorrhage from: See Hemoptysis.
  hygiene of, 1895—ab
  occluding embolism of, 74—ab
  predisposition of apices of, to pulmonary tuberculosis, 1252—ab
  spirochetes in, 1885
  surgery of, artificial intrapulmonary positive pressure in, 803—O, 805—O, 808—O, 2193—ab
  syphilis of, 268—ab, 1192—ab
  tuberculosis of, 67—ab
  tuberculosis of, and asthenia universalis, 1253—ab
  tuberculosis of, diagnosis of, 176—ab
  tuberculosis of, kidneys in, 1450—ab
Lungs, tuberculosis of, tuberculin in diagnosis of, 349—ab
  tuberculosis of, x-ray diagnosis of, with demonstration of skiagrams and orthodiascope, 1904—ab
Lupus, crusade against, in Germany, 1879
  differentiation and treatment of, tuberculin salve in, 174—ab
  erythematosus, 1106—ab
  phototherapy of, 2096—ab
  treatment of, 632—ab
  treatment of, in private practice, 1743—ab
  vulgaris, treatment of, 1820—ab
  vulgaris, treatment of, by unmodified sun rays, 1821—ab
Luxation: See Dislocation.
Lymph, excess of, chlorids in, 350—ab
  bodies, hygiene of, 1895—ab
  glands, sarcoma of, simulating granuloma, 539—ab
  humanized, vaccination with, 939—ab
  lymphagogue action of, 350—ab
  nodes, cervical, tuberculosis of, 1364—ab
Lymphagogs and adrenalin, antagonistic action of, 539—ab
Lymphangitis, and inflammation of liver, 73—ab
Lymphatic permeation in cancerous metastasis, and significance for radical operations, 2164—E
Lymphatics, constitutional predisposition to disease on part of, 177—ab
  sclerosis of, corresponding to arteriosclerosis, 1475—ab
Lymphoid tissue, hypertrophy of, and tuberculosis, 1628—ab
Lymphosarcoma in dogs, 158—ab
  in dogs, immunity in, 251—ab

M

Madrid University, quadricentennial of, 49
Magic healers and others, in Georgia, *law regarding, 704*
Magnesium deposits and lime, solvent action of sulphocyanates on, in system, 621—ab
  sulphate in tetanus, 530—ab
  sulphate, intraspinal injections of, in chorea, 2192—ab
  sulphate solution in erysipelas, local use of, 259—ab
Maine medical news, 48, 1980
  reorganization in, 336
  state board July report, 1718
Maladies imaginary rôle of physician *in producing or maintaining, 1374*—ab
Malaria as cause of purpura hemorrhagica, 2003—ab
  diagnosis and pathology of, 1903—ab
  hypodermic use of quinin and urea hydrochlorid in diagnosis and treatment of, 1550—ab
  in children, 916—O
  in Mauritius, prevention of, 1984
  latent, diagnosis of, 1907—ab
  pernicious, 530—ab, 1733—ab
  prophylaxis of, 1892—ab
  treatment of, 1993—ab
  what we should know about it, 1641—ab
Male, lacteal secretion in, 2075—C
Malicious prosecution, physician not liable for, in Georgia, 704
Malignancy, Malignant: See also Cancer and Carcinoma.
  in human beings, hemolytic tests for, 158
  disease, infection of operative wounds by, 748—O
  growths, superficial, removal and cure of, 626—ab
Malingering, 629—ab
  and functional paresis of lower extremities, new sign for detection of, 746—O, 1309—O
  remarkable, 1645—ab
Malnutrition and society, 1278—ab
Malpractice case, alleged, admissible evidence in, 1104
  in use of x-ray, discussion of evidence and law in action for, 1182
  liability of osteopaths for, 1031
  statements of patient as to past pain and evidence in, 1900—ab
  suits, defense of, 434—ab
  suits, protection from, 534—ab
Mammæ, supernumerary, in axillæ, 82—ab
Man, chorioepithelioma in, 876—ab
  health of, and plants, chemistry *and effects of bituminous* coal smoke on, 1815—ab
  in Florida, proliferating cestode larva in, 1110—ab
  jugular pulse of, 440—ab
  lacteal secretion, 2075—C
Mania, recent; cause and treatment, 1100—ab
Manila, cause of cholera in, 533—ab
Manitoba, *typhoid in*, 940—ab
Mann, congressman, meritorious bills *introduced by*, 334
Manola, 511
Marienbad tablets, 237
Marmola and rengo-fruit, composition *of*, 1439
Marriage and home life, place of woman in modern business world as affecting, 429—ab
  and presumedly cured gonorrhea, 1925—O
Marriages, 62, 154, 243, 336, 427, 520, 617, 694, 782, 861, 936, 1029, 1101, 1179, 1274, 1351, 1442, 1530, 1621, 1721, 1802, 1888, 1991, 2078, 2178, 2230
  consanguineous, ophthalmologic dangers of, 1356—ab
Martin, Prof., impression of America, 2181—ab
Maryland establishes a state journal, 146
  homeopathic state board June report, 1028
  medical news, 48, 136, 231, 325, 507 681, 766, 851, 925, 1020, 1088, 1163, 1240, 1341, 1433, 1518, 1607, 1788, 1980, 2065, 2223
  public instruction in, 618
  state board June report, 1620
Masks and gloves advisable in surgery? 1107—ab
Massachusetts forbids objectionable advertising, 618
  medical news, 48, 136, 231, 325, 415, 507, 681, 766, 851, 936, 1240, 1342, 1433, 1607, 1704, 1877, 2066, 2165, 2223
  state board March report 64
  state board May report 154
Massage and mobilization, for fractures, 1554—ab
  of abdomen, contraindications for, 332—ab
  subdiaphragmatic, resuscitation of heart by, 1167—ab
Mastitis, puerperal, forms of, and treatment, 1649—ab
Mastoid operation, indications for, 868—ab
Mastoiditis, acute, 1356—ab
  chronic, meato-mastoid operation in, 1062—O
Matches, yellow phosphorus in, 51
Maternity, effect of overcivilization on, 1902—ab
Matter and energy in vital processes, 1647—ab
McCormack, Dr., in Ohio, 1714
McCormack's South Dakota tour, 1025
Meal, test, rapid method of removal, and inflation of stomach, by lavage, 1280—ab
Measles and red light, 873—ab
  and scarlatina complicated by otitis media, treatment of, 1279—ab
  bacteriology of, 60
  cutaneous tuberculin reaction during, 798—ab
  in utero, 1372—ab
  whooping cough and influenza, relation to tuberculosis in children, 1366—ab
Meat diet and intestinal affections, 59—ab
  poisoning, 954—ab
  non-use of, purin autointoxication due to, 67—ab
Meckel's Diverticulum: See Diverticulum
Mediastinal and bronchial glands, enlarged, physical determination *of*, 715—ab
Mediastino-pericarditis, chronic adhesive, and *pericarditis*, surgical treatment of, 954—ab
Mediastinum, anterior, traumatic abscesses of, 1114—ab
  clinical aspects of tumors of, 897-O
  posterior, spondylitic abscesses in, 1114—ab
Medical advance, currents and counter-currents in, 1550—ab, 1633—ab, *2001—ab*
  college advertisement, old, 1534
  College Association, southern, 603
  college mergers, 229—E
  college mergers and Kentucky problems, 610—E
  college notes, 603
  colleges, American, Association of, 585
  colleges, Cincinnati, merge, 152
  colleges, eclectic, national confederation of, 603
  colleges, Illinois, in good standing, 154
  colleges, irregular, plan for checking growth of, and destroying charlatan factories, 1713—C

Medical colleges not recognized in North Dakota 519
- colleges of U S, 575
- colleges pseudo and educational standards 604
- colleges, supervision of, 948—ab
- colleges work for standard curriculum in, 1886
- concerns fraudulent, enlightenment of public on 1879—E
- crisis in France 772
- defense in Wisconsin, 56—ab
- defense, report of committee on, 1547—ab
- education American Medical Association standards of, 584
- education and hospitals in Great Britain 771
- education and nostrums, 2230
- education and optometry, 1800—ab
- education, centennial of, in Brazil, 1879
- Education, Council on, 433—ab
- education in France reform in, 1023
- education in London, 1516—E
- education in U S, 566—O 607—L
- education of public, 1280—ab
- education, report of committee of American Academy of Medicine on 339—ab
- education states and municipalities, 606—E
- ethics, instruction on, 1881—C, 1989—O
- examiner for insurance, 2011—ab
- expert, shall average country practitioner testify before juries as? 1819—ab
- expert testimony, 620—ab, 868—ab
- experts and law, 2001—ab
- fees general plan for schedule of, 1882—O
- inspection of school children, 640—ab, 948—ab, 1167, 2170
- institute 1350—O
- instruction, supplementary, in Paris, 2170
- journals and publication of society papers, 2189—ab
- journals southern, and clean advertising, 649—E
- journalism, blight on, 504—E
- journalism, ethics of, in Germany, 614—ab
- legislation, attitude of public toward 1103—ab
- legislation in Arizona, 1441—ab
- Men See also Physicians
- men, remuneration of, in public office in Germany, 1438
- men, scarcity of, in Austrian army, 1246
- nomenclature, 515—ab
- organization, fallacious notions concerning it, 248—ab, 710—ab
- organization in Germany, 1246 1523
- organization in No Carolina 619 ab
- organization in Northwest, 780—ab
- organization in southern Pennsylvania, 781—ab
- organization, purposes and possibilities, 259—ab
- organization systematic, in Kansas City, 55
- practice act, Georgia, construction of, as to whom it covers 704—ab
- practice act new, in Louisiana, 935
- press association, German, 1613
- press, how to remove blight on, 513—ab
- profession and legislatures, cooperation between, 413—E
- profession and public, 162—ab, 709—ab, 1461—ab
- profession and public policy, 1249—ab
- profession, needs of, 1732—ab
- profession, opportunities of, in Far East, 1178—ab
- profession, responsibility of, for use of nostrums, 2029—O
- Protection Association, London and counties 235
- quacks recognized authority on 697
- regulations in Austria, new, 686
- research, opposition to, 635—O
- school, first American 1462—ab
- service bills endorsed, 2077
- service in Army and Navy, 1440
- service in modern Army in war, 1995—ab
- services rendered with approval of president, corporations not liable for 787
- side of alcoholic problem 1625—ab
- specialties, in Germany, 1023
- standard advance and retreat of, 1977—E
- standards higher, at University of Virginia 1273—ab
- students in Great Britain, scientific education of, 1437
- students Paris, corporate association of, 1793

Medical studies, public medicine and hospitals, 1645—ab
- training and intellectual influence, 615—L
- work in Vienna, 688—C

Medicinal preparations, evils in production of, 1288—ab
- no fixed percentage of alcohol in, 1637—ab

Medicine and pharmacy, 1832—O
- and pharmacy, quack in 1712
- and politics in France, 1870
- and research, 1700—L
- and surgery, evil tendencies in, 2088—ab, 2234—ab
- and surgery of Northwest, organization and centralization of, 1109—ab
- and surgery, oxygen in 626—ab
- and surgery, recent advances in science and bearing on, 1553—ab
- contract to nurse a person not one to practice 529
- cooperation of church with, 1431—E
- esperanto in, 1027
- human element in, 1807—ab, 1901—ab
- ideal in, 523—ab, 868—ab
- ideas and ideals in, 1186—ab
- in Vienna 320—E
- internal, French congress of, 1243
- international, plea for esperanto in, 1851—C
- just perspective in, 1734—ab
- modern, 794—ab
- of to day, phases of practice of, 524—ab
- practice of, and prescribing remedies, what constitutes? 1276—ab
- practice of, corporations other than hospitals prohibited from, 2184—ab
- practice of, what documentary evidence should be accepted as qualification for? 2188—ab
- preventive, 329, 698—ab, 1110—ab
- problems in, which affect prosperity of South, 1805—ab
- progress in, 340—ab
- public, hospitals and medical studies 1645—ab
- sanctity of, 347—ab
- sociologic, 2091—ab
- study of, by women in Germany, 510
- tropical Far Eastern association of, 328
- tropical, Huxley lecture on, 1646—ab
- unreasonable traditions of, 707—ab
- veterinary, modernization of, 1346
- what constitutes practice of, under new California law, 1637—ab

Medicines, sale of, in Germany, 2171

Medicolegal relations of, intestinal tears following unoperated appendiceal abscesses, 624—ab

Megacolon, 355—ab
- in children 265—ab

Melancholia in children, 1733—ab

Melanosarcoma of orbit, 530—ab

Melena and paratyphoid in new born, 264—ab

Mendelism and disease, 147

Meningism and meningoencephalitis in croupous pneumonia, 1473—ab

Meningitis acute tuberculous, of children diagnostic value of lumbar puncture in, 1627—ab
- basic occlusive, 1825—ab
- blood in, 177—ab
- cerebrospinal, bacteriology of, 171—ab
- cerebrospinal, epidemic, 1819—ab
- cerebrospinal, human serum in, 1085—E
- cerebrospinal, serotherapy of, 15—O, 21—O, 65—ab 66—ab, 269—O 1184—ab, 1193—ab, 1315—O, 1318—O, 1371—ab, 1645—ab, 1819—ab, 1907 ab, 1913—ab, 2191—ab
- cerebrospinal, serotherapy and prognosis, under various forms of therapy 1371—ab
- cerebrospinal, serotherapy of, and abnormal reactions to horse serum in, 2191—ab
- cerebrospinal, with unusual symptoms 1231—O
- circumscribed serous spinal, idiopathic form of, 1558—ab
- constriction hyperemia in, 86—ab
- meningococcic serotherapy of, 21—O, 1819—ab
- of doubtful origin importance of rhinoscopic examination of sphenoethmoidal region in, 1455—ab
- spinal serous 1192—ab
- suppurative in puerperium 446—ab
- tuberculous, clinical manifestations of, 1367—ab
- tuberculous, surgical possibilities in, 1363—ab

Meningococci, cultivation of, 631—ab

Meningococcus, hydrocephalus caused by, 1819—ab
- sepsis, 1561—ab
- sepsis with acute fibrinopurulent pericarditis and hypopyon iritis, 1903—ab

Meningoencephalitis and meningism in croupous pneumonia, 1473—ab

Meningo encephalomyelitis, myoclonia in, 538—ab

Menopause, 1507—O
- and heart, 1741—ab

Menorrhagia, 75—ab

Menstruation and lactation, 82—ab
- and pyelitis 875—ab
- as evidence of age, 2232
- disturbances of, 872—ab
- first, age at, and development of pelvis, 2192—ab
- nasal 1077—O

Mental affections and serodiagnosis of syphilis, 1285—ab
- contagion 625—ab
- defect and tuberculosis, 1725—ab
- disease, need of better provision for treatment in early stage, 1270—ab
- diseases from sociologic point of view 2006—ab
- disorders, provision for management of certain forms of, 2186—ab
- healing systems and methods, physician s relation to, 710—ab
- processes, insane, sane prototypes of 163—ab, 2187—ab

Mercury and chalk in smallpox, 2189—ab
- bichlorid, pericarditis in course of poisoning from, 1039—ab
- hypodermic use of in syphilis, 1990
- in late syphilis, 1954—O
- in tabes, 1290—ab
- in tuberculosis 75—ab, 166—ab, 944—ab, 1108—ab, 1349, 1854—O, 2187—ab
- inhalation of, in syphilis, 1289—ab
- injections value and technic of, 850
- intravenous injection of, 2155—O
- is it a specific in infectious and contagious diseases, as well as in syphilis? 1625—ab
- local injections of, in syphilis, 172—ab
- salicylate of intramural injections of, in treatment of syphilis, 793—ab
- succinimid, 2075, 2219

Mesenteric glands primary tuberculosis of, 866—ab

Mesentery, chyle cysts of, 1731—ab
- surgical treatment of tuberculous glands in, 1467—ab

Metals, tinning of, cause of lead poisoning in, 2191—ab

Metabolism in children, why greater than in adults 85—ab
- in typhoid, 974—O
- inborn errors of, 442—ab, 535—ab, 626—ab 710—ab
- intermediary, influence of complete thyroidectomy and thyroid feeding on 1731—ab
- nitrogenous influence of reduction of kidney substance on, 1184—ab
- of water and salt, pathology of, 1559—ab
- perverted toxemia from standpoint of, 1184—ab
- protein and diminished muscular activity, 1278—ab
- purin in gout, 868—ab
- salt, and ash free diet, experiments on, 727—O
- uric acid during subcutaneous oxygen treatment of neuritis and neuralgia, 1044—ab

Metallic caustics, how to clear cornea of opacity from, 447—ab

Metastases, cancerous, doctrine of lymphatic permeation in, and significance for radical operations, 2164—E

Metatarsus, indirect fractures of, 1289—ab

Methylene blue and indigo carmin tests for kidney function, 1893
- sodium carminate and indigo carmin, kidney secretion of, 1108—ab

Metol dermatitis due to irritating effect of, 1106—ab

Metreurynter for placenta previa, 632—ab

Metric system in prescribing, 1037—ab
- vs apothecaries system, 1869—O

Metritis, chronic, hemorrhage in, 82—ab

Metrorrhagia, 75—ab

Mexico, breezy invitation from, 1529

Meyer, Professor, asked not to leave Vienna, 236

Mica plates for research on red corpuscles, 1474—ab

Michigan, county secretaries meet in, 2175—ab

Michigan medical news, 136, 231, 507, 766, 1058, 1241, 1705, 1877, 1980 2223
- state board May and June reports, 1099
- state board October report, 2086

Migraine, an occupation neurosis, 200—O
- and epilepsy, thyroid extract in, 625—ab
- ophthalmic, and epilepsy, 480—O

Milan, hernia institute at, 138

Milk and infectious diseases, 1491—O
- bacterial content of, practical methods for determining, 2003—ab
- breast, increase of proportion of fat in, during ingestion of fat, 873—ab
- breast opsonic power of, for tubercle bacilli, 1366—ab
- breast, problem of, 1212—O
- breast, quantity and quality of, during first two weeks of puerperium, 1209—O
- clean, 1635—ab
- clean or unclean? 1375—ab
- commercial pasteurization of, 941—ab
- commissions, county, 335—ab
- cooler, practical, 1328—O
- cow s and human, available alkali in ash of, and infant nutrition, 1033—ab
- cow's, containing, tubercle bacilli, *danger in using*, 2233—ab
- cow s enzyme reactions of, and their importance for hygienic control of milk supply, 541—ab
- *diet, exclusive, in obesity*, 876—ab
- diet Karrell's and underfeeding in failing heart compensation, 876—ab
- fluid diet without, in typhoid, 73—ab
- formaldehyd in, test for, 778, 932
- from cows with udder affections, 1743—ab
- goat s, composition of, 149
- homogenization to increase digestibility of, 691
- of syphilitic women, antibodies in, 1409—ab
- pasteurized, an economic factor, 776
- problem, encouragements in, 1187—ab
- proteids in estimation of, 60
- proteins, 1732—ab
- pure, importance of, 1601—ab
- raw and pasteurized, chemical evidence of peptonization in, 1731—ab
- refrigerator, inexpensive homemade, 317—O
- safety of, from actinomycotic cow, 1717
- serious epidemic of sore throat traced to, 58—ab
- skimmed as temporary food for infants, 709—ab
- sour, practical value of, 1327—ab, 1642—ab
- supply, protection of, 434—ab
- top, fat and proteid content of, 248
- top, gospel of, 1216—O
- typhoid due to 255—ab, 2088—ab

Milkers' felon, 717—ab

Milk vegetable diet in pernicious anemia, 1744—ab

Milroy's disease, 262—ab

Mind See also Mental

Mind and body, conditions of, persisting after mutilating operations on female genitalia, 345—ab
- and nervous system, diseases of, and pelvic diseases, 1904—ab
- unsound habitual drunkards as persons of, constitutionality of law providing for detention and treatment of, 1814
- state of in chorea, 533—ab

Mine accidents, 1431—E

Mines organized rescue work in, 412—E

Miners light 1624—ab

Minnesota how it cares for its indigent children with tuberculous bones and joints 1541—ab
- management of smallpox in 2001 ab
- medical news, 503, 681, 766, 1705, 1789
- state board June report, 427
- state board October report, 1801

Miotics vs iridectomy in simple chronic glaucoma, 1389—O

Miracle cures, 928

Miracles at tomb of B François d Paris 255—ab

Miscarriage See also Abortion
- caused by injury, damages recoverable for, 2057

Missionary, medical, death of, 728

Missions medical, beneficent work of, 327—ab

Mississippi medical news, 766, 852

Mississippi, next senator of, on typhoid, 1529
  state board May report, 520
  state board, October report, 2086
  valley and tropical diseases, 2091—ab
Missouri medical news, 137, 231, 415, 508, 611, 681, 1088, 1163, 1433, 1705, 1789, 1877, 1981, 2223
  state board June report, 696
  state board May report, 65
Mitral stenosis and dwarf growth, 873—ab
  congenital, with pregnancy and childbirth, 712—ab
Mobilization and massage, treatment of fractures by, 1554—ab
Moebius endowment, 684
Mole, hydatidiform, nature of, 81—ab
Mongolian spots and rickets in colored children of Jamaica, 867—ab
Monkey, digestive tract of, B bulgaricus in, 1732—ab
Monkeys, experimental production of disease in, and treponema pertenuis of yaws, 950—ab, 1187—ab
Monomania, insane delusions and demand of change in declaration as to, 1999
Monstrosity, double headed, 1073—O
Montano and Idaho, Rocky Mountain spotted fever in, 1809—ab
  medical news, 766, 1433
  state board April report, 64
Morbidity and mortality of child bearing women, reduction of, if maternity hospitals were more in favor, 623—ab
  lessened, due to purification of water supplies, 1431—E
  returns, international classification as applied to, 2089—ab
Moro tuberculin test, 239
Morphin derivatives in ocular therapeutics, 1037—ab, 1643—ab
  meconate, 2219
  poisoning, industrial, 2010—ab
Morphinism, chronic, its treatment, 1282—ab
  narcotic method of treating, 1032—ab
Mortality and morbidity of childbearing women, reduction of, if maternity hospitals were more in favor, 623—ab
  from tuberculosis in Berlin, causes of decline of, 712—ab
  Infant. See Infant Mortality.
  rate in autopsies, 566—ab
  tables, use of, not dependent on race, color, time or place, 1728—ab
Mosquito and yellow fever, 2199—O
  destruction, in Cuba, 417—ab
  destruction in tropics, 2203—O
Mother and unborn child injured, rights to damages where, 942
Mothers of infants with inherited syphilis, serodiagnosis in, 876—ab
Motor car and telephone vs axis-traction forceps, 1555—ab
  function, and inhibition of brain, 183—O
  traffic, dangers of, in London, 235
Mouse tumors, influence of scarlet oil on, 2197—ab
Mouth and tongue, cancer of, 1730—ab
  breathing, causes and evils of, 1819—ab
  breathing, snoring, etc , 793—ab
  cancer of, in southern India, 79—ab
  cancer, transplantable, resistance of, to freezing with liquid air, 2003—ab
  care of, during infancy and childhood, 2186—ab
  hygiene of, 1895—ab
  inefficient care of, alveolitis or pathologic conditions arising from, 2113—O
  nose and pharynx, general anesthesia in, surgery of, 438—ab
  pigmentations of mucous membrane of, 1685—O
  rare *ulcerative and necrotic processes* in, 2098—ab
  tuberculosis of, 1364—ab
Mucous membrane, gastric, direct inspection of, 495—ab
  membrane of vagina and uterus, capacity of, for absorption, 2193—ab
  membranes, hygiene of, 1895—ab
Mucus, intestinal, paroxysmal excessive secretion of, 953—ab
  microchemical test for, in stools, 2099—ab
Muflet, T , 1732—ab
Mumps non suppurative involvement of labyrinth in, 1961—O
Municipalities in Ohio valley, responsibilities of, for epidemics of typhoid, 1496—O
  states and medical education, 606—I
Murine eye remedy, 1614
Murmur, exocardial, often misinterpreted, 1644—ab
  respiratory, and physics of physical signs, 390—O
Muscle, behavior of, after compression, 350—ab
Muscles and glands, resuscitation of, after temporary anemia, 350—ab
  congenital defects of, infantile disintegration of nuclei and progressive infantile dystrophy of muscles, 1115—ab
  ischemic contracture of, and plaster cast, 2195—ab
  paralysis of, and retching, and apomorphin poisoning, 1381—ab
  re education of, in tabes, 239
  smooth, application of McDougal's theory of, contraction to, 1278—ab
Muscular movements, single, coordination of, in central nervous system, 89—O
  rigidity, congenital, and dislocation of hip joint, 356—ab
  symptoms following exposure to intense heat, 1969—O
Myasthenia gravis, pseudoparalytic, 1191—ab
  with negative pathologic findings, 164, 2004—ab
Mycosis fungoides, 1821—ab
Mydriatic substance, in urine, 1702—E
Myelomalacia, traumatic cervical, 664—O
Myocarditis, chronic, 77—ab
Myocardium vs endocardium changes as cause of death, 1177—ab
Myoclonia, pathologic anatomic findings in, 538—ab
Myogenic theory, forms of cardiac arrhythmia from point of view of, 1467—ab
Myoma uterine, dangers and treatment of, 261—ab
Myositis ossificans, 344—ab
Myotonia, congenital, study of, by sufferer from it, 2091—ab
Myxoma of pelvis, true and false, 1282—ab
Myxomas, casuistic study of, 1913—ab

N

Nagana, experimental, arsenic treatment of, 447—ab
Name, commercial value of, 237
Narkine, 1439
Nasal dysmenorrhea, 264—ab
Nasopharyngeal origin of chorea, 2192—ab
Nasopharynx, obstructive abnormalities of, in children a factor in tuberculosis, 1367—ab
National commission on country life, work of, 1616—C
  Confederation of State Medical Examining and Licensing Boards, meeting of, 519
  Confederation of Eclectic Medical Colleges, 603
  Formulary, 1524
  Formulary and U S Pharmacopeia, need of more intimate knowledge of, among physicians, 2018—O
  Department of Public Health See Health
  Fraternal Sanitarium and Lloyd's specific, 1794
Nausea, postanesthetic, and vomiting, administration of oxygen for, 524—ab
Navy and Army, medical service in, 1440
Nebraska medical news, 231, 767, 852, 1088, 1241, 2166
  state board August report, 1528
  state board May report, 426
Neck, deformities of, 337—ab
  extirpation of glands in, injury of nerves during, 713—ab
  surgery of triangles of, 1543—ab
Necropsy, bovine, as object lesson on importance of tuberculin diagnosis of tuberculosis, 2173—C
Necrosis, chloroform, of liver, 1462 ab
  of limbs, after ligation of large trunk vessels, 797—ab
  phosphorus, treatment of, 355—ab
  progressive, of costal cartilages, 2095—ab
  subcutaneous, of fat tissue, 1474—ab
Needles, extraction of, 1042—ab
Negro, appendicitis in, 2081—ab
  consumptive, 533—ab
  his outlook for health, 533—ab
Negros tuberculosis among, 1963—ab
Neoplasms, active, non relationship of, to prognosis in malignant disease, 910—O
  of kidney, 1546—ab
Nephrectomy, immediate, case requiring, 1780—O
Nephritis, acute, in childhood, unusual type of, 156—ab, 867—ab
  chronic, and arteriosclerosis, lesions of suprarenals and, 2089—ab
  chronic, measurement of, blood pressure in, 1911—ab
  chronic, etiology of, 349—ab
  chronic, serotherapy of, 1823—ab
  chronic, treatment, 1642—ab
  chronic, with uremia, and neuroretinal lesion, subtemporal decompression in, 1902—ab
  congenital, 2185—ab
  decapsulation of kidneys in, 1710—ab, 1909—ab
  experimental, nephrotoxic substances in serum of animals with, 1903—ab
  hemorrhagic, epidemic of, following scarlet fever, 1410—O
  of pregnancy, suprarenal capsules in, 81—ab
  pneumococcus, 36—ab
  sclerous atrophic, of tuberculous *origin, 1286*—ab
  secondary, with transplacental typhoid infection, 1817—ab
  serotherapy of, 1738—ab
  surgical treatment of, 1374—ab, 1546—ab
  symptomatology of, 1286—ab
  symptoms, diagnosis and medical treatment of, 1546—ab
Nephrolithiasis, 260—ab
Nephropexy, 441—ab, 554—O
Nephrotoxic substances in serum of animals with experimental nephritis, 1903—ab
Nephroureterectomy for renal tuberculosis in women, 459—O
Neriot ferment, 143
Nerve anastomosis in infantile paralysis 318—ab
  atrophy optic, infrequent type of, 290—O
  auditory, division of, for painful tinnitus, 1645—ab
  changes, optic, in multiple sclerosis, 120—O
  conduction, temperature coefficient of velocity of, 310—ab
  facial, anastomosis of, 455—O
  involvement in fracture of extremities, 785—ab
  nasal, resection of, in intractable hay fever and paroxysmal coryza, 171—ab
  nucleus icterus of infants, 799—ab
  optic, affections of, differential diagnosis of, 483—O
  nerve, optic, affections of, in pregnancy 877—ab
  optic, disturbances of, in incipient multiple sclerosis, 1470—ab
  optic, indirect injuries of, 948—ab
  resection for painful stump, 333
  strain as etiologic factor in nervous affections, 632—ab
  ulnar, occupation neuritis of deep palmar branch of, 164—ab, 2004—ab
  ulnar, recurrent dislocation of, 1372—ab
Nerves, cranial, injuries of, from fractures of skull, 271—O
  injury of, during extirpation of glands in neck, 713—ab
  motor peripheral, surgery of, 526—ab
  recurrent laryngeal, paralysis of, of peripheral origin, 438—ab
  suture of, 264—ab
  suture of, prognosis in, 338—ab
  treatment of paralysis of, by plastic operations on, 633—ab
Nervous affections, nerve strain as etiologic factor in, 632—ab
  affections, traumatic, 1382—ab
  affections, traumatic, treatment of, 1382—ab
  and mental, diseases, and pelvic diseases, 1904—ab
  disease, and serodiagnosis of syphilis, 1894—ab
  disease, application of Wassermann test in diagnosis, prognosis and treatment of, 1894—ab
  disease, prostate as factor in, 2089—ab
  disturbances of arms in arteriosclerosis, 2197—ab
  strain and overwork, in tuberculosis, 1899—ab
  system and tuberculin reactions, 1604—E
  system, autonomous, in acute surgical conditions, 535—ab
  system, arterio clerosis of, 169—ab
  system and organs of senses, metastasis of carcinoma in, 2198—ab
  system, central, coordination of single muscular movements in, 89—O
Nervous system, heredity in diseases of, 2189—ab, 2190—ab
  system, influence of, on infective processes, 2093—ab
  system, modifications in, after stovain anesthesia, 955—ab
  system, organic disease of, early diagnosis, 2190—ab
Nervousness in children and their diet, 1560—ab
Neuralgia and neuritis, uric acid metabolism during subcutaneous oxygen treatment of, 1044—ab
  facial, verdict of French surgical congress on, 1909—ab
  syphilitic, 81—ab
  trigeminal, from changes in teeth, 266—ab
Neurasthenia, 624—ab, 1034—ab
  and hysteria, psychology of, 1377—ab
  autosuggestion in, 538—ab
  blood pressure in, and effects of treatment, 626—ab
  damages for injuries causing, 1459—ab
  from insufficiency of salivary glands, 59—ab
  hysteria, hypochondria and simulation, distinction between, 784—ab
  medical, dietetic treatment of, 634—ab
  mental aspect of, 1179—ab
  nature and treatment, 2185—ab
  treatment of, 955—ab
Neurasthenic and hysterical conditions following accidents, 1806—ab
Neuritis and neuralgia, uric acid metabolism during subcutaneous oxygen treatment of, 1044—ab
  ascending, 1558—ab
  multiple, 1543—ab, 2189—ab
  occupation, of deep palmar branch of ulnar nerve, 164—ab, 2004—ab
  secondary ulnar, with ischemic contracture, following brachial thrombosis, 2059—O
Neurologists, attitude of, to electrotherapy, 13—O
Neurology teaching in America, 1—O
  x ray in, 723—O
Neuron, peripheral centripetal in tabes, improvement of, by Frankel's exercise therapy, 955—ab
Neuroses, hyperemia in, 1462—ab
  factors in causation of, 2007—ab
  occupation, 1453—ab, 2189—ab
  of bladder, 76—ab
  of nose, 2233—ab
  of stomach, 74—ab
  reflex, from ocular and nasal abnormalities, 1815—ab
  vasomotor trophic, prognosis and treatment of, 2009—ab
Neurosis, expectation, monosymptomatic, 633—ab
  migraine an occupation, 200—O
  of diaphragm, 1741—ab
Nevada medical news, 1434, 2166
  state board May report, 243
Nevi and other lesions of skin, carbon dioxid snow in, 356—ab, 1057—ab
New and Nonofficial remedies, 1235, 1337, 1427, 1513, 2160, 2218
New Hampshire medical news, 508, 1518, 1981
  state board July report, 1100
  state tuberculosis sanatorium, 162—ab
New Jersey medical news, 232, 415, 508, 767, 926, 1020, 1163, 1513, 1981, 2066
  state board June report, 1171
New Mexico state board January and April reports 242
  state board July reports, 1528
New-York bovine tuberculosis inspection, 144—O
  decision, regarding osteopaths, 1459—ab
  medical news, 48, 137, 232, 325, 415, 508, 611, 682, 767, 852, 926, 1020, 1088, 1163, 1241, 1342, 1434, 1519, 1607, 1705, 1789, 1877, 1981, 2066, 2166, 2224
Newspaper, local, county society use, 144
Newspapers guide to science, 1667—ab
Nitrite poisoning by ingestion of bismuth subnitrite, 1514—E, 1711—C
Nitrites nitrous acid and aqua regia in determination of mineral constituents of urine, 1278—ab
Nitroglycerin tablets, physiologic assay of, 2130—O
Nitrous oxid and oxygen in dental and major surgery, 907—O
  anesthesia, 1576—O
  anesthesia, blood changes in, 1533—O
Nobel prizes, 2168, 2227
Nodes, Heberden's, 2182—ab

Non electrolytes and salts, influence of on heart, 350—ab
Non proprietary unofficial articles, 237—O
North Carolina medical news 137, 326, 416, 1020, 1089, 1164, 1241, 1454, 1608, 1877, 1982, 2167, 2224
  medical organization in, 619—ab
North Dakota, colleges not recognized in 519
  medical news 767, 1241
  nostrums analysis in, 55
  state board July report, 696
  state board October report, 1719
Nose abscess of septum of, probably due to anthrax, 1697—O
  accessory cavities and throat and eye affections, 1471—ab
  accessory sinus complications following influenza, 1456—ab
  accessory sinuses of, diagnosis and treatment of diseases of 1516—ab
  accessory sinuses of, surgical treatment of orbital complications of diseases of, 299—O
  affections, induced hyperemia in 718—ab
  analgesia of, as prognostic symptom in dry catarrhal deafness 750—O
  and eye abnormalities, reflex neuroses from 1815—ab
  and face, non specific ulceration of bones of, 1465—ab
  and throat chronic infections of, systemic effects of, 1805—ab
  breathing and general disease, 2189—ab
  collodion dressings in, 1152—O
  depressed deformities of, combined bridge and intranasal splint for, 1421—O
  diseases of, in children, from general medical standpoint, 1455—ab
  hemorrhage from, common source of, in persons previously healthy, 2004—ab
  hygiene of, 1895—ab
  menstruation from, 1077—O
  mouth and pharynx surgery, general anesthesia in 438—ab
  neuroses of, 2233—ab
  septum of, typical crest shaped deflection 222—O
  submucous resection of lateral wall of, in chronic empyema of antrum, ethmoid and sphenoid, 1136—O
  sunken, operation for, 352—ab
  treatment of strictures of duct of, with lead styles 1207—O
  tuberculosis of, 1364—ab
  turbinal removal, rapid effective and least bloody method 1720—ab
Noses new, process for making, 1536—ab
Nostrum campaign, 778—ab
  circular nuisance and cheap postage 1707—E
Nostrums and German medical press, 330—ab
  and impure food, canned mud from exploiters of, 331—ab
  and medical education, 2230
  and religious journals 143—ab
  British investigations of, 1987—ab
  endorsement of work of Council against, 341—ab
  in North Dakota, analysis of, 55—ab
  local regulation of, 55
  responsibility of medical profession for use of 2022—O
  tax on in Great Britain 1707
Nuclei, infantile disintegration of, progressive infantile dystrophy of muscles and congenital muscular defects, 1115—ab
Nurse, contract to not one to practice medicine 529
Nurses male supply of, 50
  training schools for 1445—ab
Nutrition and digestion, characteristics of in early infancy, 1255 ab
  and fresh air adjuvants to in laryngeal and pulmonary tuberculosis 1465—ab
  of children practical application of food values in 1186—ab
Nuts, food value of, 2063—E
Nystagmus voluntary unilateral, 1939—O

O

Oatmeal diet and diabetes mellitus, 257—ab 1036—ab
Obesity exclusive milk diet in 876—ab
Obstetric case in country practice, after care of, 523—ab
  diary of William Hunter, 1379—ab
  experiences 1723—ab
Obstetrical kicks 1171—ab
Obstetrics and gynecology, under water examination and treatment in, 256—ab
Obstetrics chloroform in, 532—ab
  in northern mining community, 917—O
  in Philippines, 1185—ab
  old and new, 1011—ab
  scopolamin morphin in 177—ab
  serodiagnosis of syphilis in importance of, 795—ab
  significance of blood pressure and relation to work of heart 945—ab
  solving problem of, 1155—ab
  suprarenal preparations in, 630—ab
  training for, 951—ab
  urinary infections in, 1641—ab
  with sequela 786—ab, 1110—ab
Obstipation 250—ab
  is it a symptom or disease? 1906—ab
  spastic non existence of, 1619—ab
Obstruction, Intestinal See Intestinal Obstruction
Occipito posterior position management of, 1353—ab, 1375—ab, 2189—ab
Occlusion postoperative spastic, of intestine, explanation of, 2012—ab
Occupation for tuberculous convalescents choice of, 950—ab
  neurosis, migraine an, 200—O
  neuritis of deep palmar branch of ulnar nerve, 164—ab
Ochronosis and alcaptonuria, 148
Ocular See Eye
Ohio medical news 416 508 612, 768, 1021, 1164, 1342, 1434, 1706, 1790, 1878, 1982, 2067, 2167, 2224
  state board June report 519
  state board requires practical tests, 63
  valley, responsibilities of municipalities in for epidemics of typhoid, 1196—O
Oil in stomach diseases, 2009—ab
  olive, Italian, 1510—ab
  rub 1699
  sterile to prevent intraperitoneal adhesions 353—ab
Oklahoma medical news, 1242, 1608
  State M A, journal of, 49
Olympiads, ancient and modern, 501—E
Omentopexy to intestine deprived of its mesentery, 1105—ab
Omentum, great intra abdominal rotation of unaccompanied with hernia, 1107—ab
  great, primary sarcoma of, 81—ab
  inflammation of, 364—ab
  torsion of 260—ab, 1107—ab
Operation ideal, for arterial aneurism, 1380—ab
  immediate, indications for, in diseases of upper abdomen, 1642—ab
Operations, apparatus for providing visitors with complete view and for securing photographs and moving pictures of, 1551—ab
  effect of, on diabetic patients, 169—ab
  gynecologic, necessity for diagnosis as preliminary to, 1723—ab
  London coroner on, 45—E, 50
  major surgical, psychical and end results following, 259—ab
  privilege does not extend to mere observer of, 528
  mutilating, on female generative organs conditions of mind and body which may persist after, 345—ab
  which can be done without requiring after care in hospital, 358—ab
Ophthalmia neonatorum, 434—ab, 1818—ab
  as sociologic problem 793—ab
  beef serum treatment of, 876—ab
  report of committee on, 938—ab
Ophthalmia, sympathetic, 1905—ab
  sympathetic, sodium salicylate in, 1659—ab
Ophthalmic treatment case, pocket emergency, 1010—O
Ophthalmology for general practitioners, 1833—O
  otology and laryngology, journals on, 2075
Ophthalmoscope in general practice, 1186—ab
Opium and cocain insanity caused by acute and chronic intoxications with, 97—O
  bismuth and phenol, examination of tablets of, 330—O
  commission of U S, 678—E, 688—C
  law in Philippines, effects of, 378
Opposition to medical research, 635—O
Opsonic index, accuracy and errors of, 80—ab
  experimental error in determining, 80—ab
  in infants, 80—ab
Opsonic index in pulmonary tuberculosis, 626—ab
  in tuberculous infections, 1361—ab
  method of taking, 71—ab
  statistical considerations, 80—ab
Opsonic method, surgical view of, 80—ab
  methods application of, in comparing human and bovine tuberculosis 1189—ab
  power of breast milk, for tubercle bacilli, 1306—ab
  substances thermolabile and thermostabile, interaction of in normal serum, 256—ab
  therapy, practical application of, 550—ab
  treatment of disease, 166—ab
Opsonins in normal serum, specificity of, 256—ab
  theoretical considerations and experimental work, 166—ab
Optometry and medical education, 1800—ab
  in drugstores, 1998
  laws, attitude of physicians on, 1169
Oronasopharyngeal spaces, obstructive abnormalities of, in children, a factor to tuberculosis, 1367—ab
Orbit and adjacent sinuses, mixed streptococcus and pneumococcus infection of, 1905—ab
  melanosarcoma of, 530—ab
Orbital complications in disease of nasal accessory sinuses, surgical treatment of, 299—O
Oregon medical news 682, 1242
  state board July report, 781
Organism in epidemic diarrhea, 870 ab
Organisms resistance of, to freezing, 1701—E
Organotherapy, 2186—ab
Organs blood vessels and limbs, transplantation of, 1662—O
  volume and specific gravity of, 1816—ab
Orient modern medicine and surgery in 260—ab
Oropharynx, chronic inflammatory conditions of, 1467—ab
Orphan continent without, 1552—ab
Orthopedic surgery and study of tuberculosis 1628—ab
  treatment early necessity for, in poliomyelitis 1553—ab
Orthopedics tuberculin in, 343—ab, 1553—ab
Os calcis fractures of, 1799—ab
  external, secondary rigidity of from acute puerperal inflammation of cervix 354—ab
Osteitis Paget's deforming 1474—ab
Osteoarthritis endemic deforming, in eastern Siberia, 713—ab
Osteomalacia and ovarian antibodies, 449—ab
  and rachitis, 1454—ab 2189—ab
  and rachitis, and influence of suprarenals on bony skeleton, 1377—ab
Osteomyelitis acute suppurating, treatment of, 87—ab
Osteopathic vs drug treatment, 2135 O
Osteopaths liability of, for malpractice 1031
  New York decision regarding, 1459 ab
Osteosarcoma of knee joint, 622—ab
Osteotome spiral driven by surgical engine in craniotomy, 1150—O
Otitis media, acute, in infancy and childhood 808—ab
  acute prophylaxis and treatment of 868—ab
  chronic 86—ab
  chronic, vaccines in 1465—ab
  complicating scarlatina and measles treatment of, 1279—ab
  suppurative, 1549—ab
Otitis scarlatinal occurrence and treatment of, 1824—ab
Otology, ophthalmology and laryngology, journals on 2075
  rhinology and laryngology, border line of, 361—O
  object lessons in, for general practitioner, 1807—ab
  oration on, 1178—ab
Out patient department, functions of, 261—ab
Ovarian cysts dermoid of unusual size 2215—O
  syndrome psychic disturbances in, 2207—ab
Ovaries and Fallopian tubes, operations on 259—ab
  preservation of in hysterectomy, 75—ab
  transplantation of, 707—ab 1802—ab
  tumors of complicating pregnancy and puerperium 169—ab
  what can we learn from after history of reimplantation of? 956—ab
Ovariotomies, primary and ultimate results of, for anatomically malignant and dubious tumors, 716—ab
Ovariotomy during labor, 2091—ab
  during pregnancy, 1646—ab, 1817—ab
Ovary and pancreas reciprocal relations of, and internal secretion of corpus lutem, 1742—ab
  antibodies of, and osteomalacia, 449—ab
  endotheliomata of 82—ab
  solid teratomas of 1744—ab
Overcivilization effect of, on maternity, 1902—ab
Overpressure, apparatus for, 87—ab
Overweight and underweight, influence of, on vitality, 1032—ab, 1187—ab
Overwork and nervous strain, influence of, in tuberculosis, 1893—ab
Oviduct in hen, resection and end to end anastomosis of, without loss of function, 1108—ab, 1314—O
Ovum, human, development of, during first eight weeks of pregnancy, 1457—ab
Oxygen, administration of, for post anesthetic nausea and vomiting, 524—ab
  and intubation, for resuscitation after apparent death, 2198—ab
  and muscular exercise as form of treatment, 1554—ab
  and nitrous oxid in dental and major surgery, 907—O
  continuous current of, in puerperal infections, 1821—ab
  continuous inhalation of, in pneumonia, 712—ab
  in medicine and surgery, 626—ab
  in tuberculous peritonitis, 865—ab
  inhalations in athletics, 855—ab
  treatment, subcutaneous, of neuritis and neuralgia, uric acid metabolism during, 1044—ab

P

Pain acute abdominal, diagnostic significance of, 1037—ab
  clinical aspects of, 443—ab
  electricity in relief of, 1891—ab
  referred, 534—ab
  remote, following abdominal operations 700—ab 1187—ab
  significance of left sided, in appendicitis, 949—ab
  visceral, sensitiveness to 2195—ab
Pains lancinating in head in tabes dorsalis, 1913—ab
  lightning, and gastric crises arterial pressure in tabes dorsalis and its modification by, 1798—ab
  visceral, and gallstones differentiation of gastric pains from, 1805—ab
Palate, cleft, operation for, by suturing over plates 713—ab
  hard in normal and feeble minded individuals 2169—E
Palsy See Paralysis
Panama, American medical administration in, through British eyes, 43—E 651—ab
  America's triumph in 78—ab
  pneumonia in, 1371—ab
  treatment of amebic dysentery in, 2234—ab
  triumph of sanitation at, 764—E
Panase, 1513
Pancreas alleged urinary manifestations in diseases of, 837—O
  and ovary, reciprocal relations of, and internal secretion of corpus luteum, 1742—ab
  and gastrointestinal diseases, 170—ab
  benign and malignant diseases of, 170—ab
  cancer of 1178—ab 1908—ab
  fistula, secretion from, and influence of antidiabetic diet, 1350—ab
  function of testing 73—ab
  inhibition of activity of, by extracts of suprarenal and pituitary bodies, 1462—ab
  Löwi's sign of insufficiency of, 800—ab
  physiology and chemical pathology of, in pancreatitis 2231—ab
  physiology and pathology of secretion of fistula of, 1559—ab
  surgery of, 170—ab, 632—ab
Pancreatic diabetes and gallstones, 1774—ab, 2234—ab
  secretion diagnostic importance of and method for obtaining, from stomach, 1359—ab
Pancreatitis, 250—ab

Pregnancy, tubal and intrauterine, coincident, 1730—ab
  tubal, early anatomy and histology of, 1284—ab
  tubal, etiology, diagnosis and treatment, 2195—ab
  tubal, immediate vs deferred operation for intra abdominal hemorrhage, due to, 2002—ab
  tubal, ruptured, when shall we operate? 1767—O
  tubal, treatment of after rupture or abortion, 2236—ab
  vomiting of, uncontrollable, 1380—ab
  vomiting of, uncontrollable successfully treated by suggestion, 86—ab
  vomiting of, 845
  vomiting of, etiology and treatment of, 714—ab
Prescribing, counter, and patent medicines, 1632—ab
  Pharmacopeia as standard for, 2013—O
  reform in, 1177—ab
  remedies and practice of medicine, what constitutes? 1276—ab
  simplicity, in, 962—O, 1249—C
Prescription, physician's, druggist's protection, 529
  Latin, 1349
  shot gun, 2228
  writing, 1096
Presentation, transverse, management of, 537—ab
President Roosevelt's address at *International Congress on tuberculosis*, 1261—ab
Press, daily, physicians to influence public opinion through, 1167
  German medical, and nostrums, 330—ab
  lay on antivivisection, 144
Pressure, artificial intrapulmonary positive, in surgery of lungs, 803—O, 805—O
  conditions within abdomen, 1033—ab
  high arterial, and retinal hemorrhages, 1177—ab
  in pleuritic effusions, 174—ab
  intraspinal, device for manometric estimation of, 1566—O
  procedure, Sauerbruch *negative*, value of, in prevention of pneumothorax, 808—O
  regulation of in Bier treatment, 255—ab
Preventorium league, 414—E
Priest and physician, 1901—ab
Printers, pulmonary tuberculosis among, 1726—ab
Prison, mentally defective in, 354—ab
Privilege does not extend to mere observer of operation, 528
  testimony by patient not waiver of, 1030
  waiver of, 1370
Prize, chemistry, Cannizzaro, 138
Probity, *pianos and proprietaries*, 1016—E
Proctitis See also Rectum
Proctitis sphincteric, 875—ab
Profession, overcrowded, 772
  what it may do in matters of state, 170—ab
Professional services, things not provable in action for, 1814
Professions, public service of, 1875—E
Prognosis, hopeful, 1979—E
Prohibition states, duty of physicians in, 335
Prophylaxis, and suicide, 226—E
  wholesale, 924—E
Proprietaries, fraudulent, exposure of, in Germany, 857—ab
  pianos and probity, 1016—E
  prescribing of, 989—O
Proprietary booze miracle, 1865—ab
  problem, final disposition of, 687—O
  rights, 140—O
Prostate and bladder, cysts near, 1471—ab
  as factor in nervous disease, 2089—ab
  enlarged, treatment of, by high-frequency currents, 1890—ab
  hypertrophied, 793—ab
  hypertrophied, retention catheterization in, 87—ab
  hypertrophied, x ray treatment of, 1808—ab
  surgery of, 1815—ab
  or bladder, advanced cancer of, value of bilateral ureterostomy in, 443—ab
  or seminal vesicle, inflamed, determination of gonorrheal infection in, 1108—ab
  prognosis of obstruction of, after operation, 949—ab
Prostate stretching, 713—ab
Prostatectomies, perineal, 128 successful, 160—ab
Prostatectomist, *yeoman, confessions* of, 706—ab
Prostatectomy at two sittings under local anesthesia, 84—ab
  device for prolonged irrigation and drainage of bladder after, 948—ab
  improved technic for, 632—ab
  new and rapid method of perineal drainage in suprapubic, 887—O
  perineal, preceded by suprapubic cystostomy in septic case, 178—ab
Prostatic disease in diabetics, 258—ab
  obstruction, permanent suprapubic drainage for relief of, 1282—ab
  real conservatism in treatment of, 706—ab
Prostatitis, clinical aspects of, 786—ab
  symptomatology of, 2081—ab
Prostitution, 706—ab, 1903—ab
Protection against substitution, 330—O
  as therapeutic principle, 1891—ab
Proteid in urine, 691
Proteids in milk, estimation of, 60
  of tumors, study of, 251—ab
Protein catabolism, influence of internal hemorrhage on, 1033—ab
Proteins, bacterial, anaphylaxis induced by, 836—O
Pruritus of perineal region, 1513—ab
Prussia, cremation in, 51
Pseudoangina and angina pectoris, 1544—ab
Pseudophosphaturia as sign of debility, 1651—ab
Psoas magnus, psoas parvus and iliacus, tenotomy of, in spastic spinal paralysis, 1826—ab
Psoriasis in children, 2061—ab
Psychiatric prognosis, elements of, 108—O
Psychiatry and literature, 1793
  current, trend of, 1187—ab
  splendid gift to advance, 43—E
Psychic disturbances in ovarian syndrome, 2007—ab
  factor, and surgical aspects of exophthalmic goiter, 260—ab
Psychical end results following major surgical operations, 259—ab
Psychologic tests on tuberculosis patients, 1371—ab
Psychology in disease, 1797—C
  morbid, 1625—ab
  of neurasthenia and hernia, 1377—ab
Psychopathic institute of Illinois, 503—E
Psychoses, alcholic, 1638—ab
  in children, 84—ab
  of pregnancy, 1382—ab
  recoverable, prognosis in, 624—ab
  tardy recovery from, 1476—ab
Psychotherapeutic methods, analysis *of, 169—ab*
Psychotherapy, 37—O, 368—O, 1376—ab, 1796—C, 1988—C
  and religion, 2221—E
  bottled, 52—O
  rest treatment in, 164—ab
  scope and limitations of, 949—ab
Ptoses, visceral, and movable kidney, corset for, 1568—O
Ptosis, visceral, mechanical treatment of, and new method of applying bandage, 1270—ab
Ptyalin, effect of potassium iodid on activity of, 350—ab
Puberty, indications of special secretion in testicles before, 2085—ab
Pubic arch, *inpaction of*, in bladder, with multiple fractures of pelvis and femur and trauma of kidney, 948—ab
Pubiotomy, 83—ab
  and induction of premature delivery in home, 264—ab
  indications for, and prognosis of, 2236—ab
  justifiability of, 71—ab, 1033—ab
Public affairs, and physicians, 710—ab
  and medical profession, 162—ab, 709—ab
  attitude of, toward medical legislation, 1103
  duties of medical profession to, 1461—ab
  education of, and progress in medicine, 248—ab
  enlightment of, on fraudulent medical concerns, 1873—E
  health and vital statistics, 249—ab
  health, department of, and President Roosevelt, 1338—E
Public health, education and legislation, 710—ab
  health, industrial regulation in in*terest of, 1236—E*
  health, international bureau of, 138
  health laws in Illinois, 1036—ab
  health, national department of, 227—E, 241, 425, 1338—E, 1634 ab
  health, national department of, and Anti Tuberculosis problem, 1462—ab
  medical education of, 240, 339—ab, 618, 1280—ab
  opinion and Fourth of-July holocaust, 850—E
  policy and medical profession, 1249
  service, 60, 119, 239, 333, 424, 517, 616, 693, 779, 860, 933, 1027, 1096, 1168, 1250, 1349, 1440, 1527, 1619, 1718, 1799, 1884, 1990, 2075, 2176
  service of professions, 1875—E
  surgical rights of, 864—ab, 1037—ab, 1375—ab
Puerpera to child, transmission of infection from, 632—ab
Puerperal eclampsia, kidney decapsulation in, 261—ab
  fever 1037—ab
  fever, blood findings in, in respect to prognosis, 82—ab, 1473—ab
  fever, operative treatment of, 2003—ab
  fever, prevention of, 1473—ab
  infections, continuous current of oxygen, 1821—ab
  infection, etiology and treatment of, 338—ab
  infection, fixation abscesses in, 2235—ab
  infection, importance of hemolytic streptococci, 1113—ab
  infection, prognosis and treatment of, 2010—ab
  inflammation of cervix, acute, secondary rigidity of external os from, 351—ab
  pyemia cured by ligation of pelvic veins, 267—ab
  sepsis, problems in treatment of, 209—ab
Puerperium and pregnancy, prognostic value of nuclear count associated with, 867—ab
  and pregnancy, ovarian tumors complicating, 169—ab
  labor and pregnancy, kidney disease during, 1281—ab
  parturition and pregnancy after ventrofixation, 1553—ab
  quantity and quality of breast milk during first two weeks of, 1209—O
  suppurative meningitis in, 446—ab
Pulling down sensation to be assumed, 863—ab
Pulse, jugular, of man, 440—ab
  permanent slow, pathogenesis of, 1646—ab
  slow, in acute parotiditis, 450—ab
  venous, characteristics of, in hypertrophy of left heart with kidney heart and aortic insufficiency, 174—ab
Puncture of brain, 1820—ab
Pupil See also Eye
  Kugel's operation for occlusion of, 1440
  suggestions of, in general disease, 1902—ab
Pupils, idiopathic inequality of, 1177—ab
  subnormal and mentally deficient, physical defects of school children causing, 625—ab
  unvaccinated, restriction of power to exclude, 864—ab
Pure food and drugs congress, 854—ab
Purin autointoxication due to non-use of meat, 67—ab
Puro, 614
Purpura hemorrhagica, malaria as cause of, 2003—ab
Purum tuberculinum, in pulmonary tuberculosis with, 1448—ab
Putrefaction, intestinal, and indicanuria, 1636—ab
  intestinal, and toxicity of urine and stools in infants fed on foods rich in albumin, 360—ab
Pyelitis and menstruation, 875—ab
  pathology and treatment of, 1739 ab
Pyelonephritis, suppurative, 1073—O
Pyemia, puerperal, cured by ligation of pelvic veins, 267—ab
Pylorus, congenital narrowness of, a cause of chronic stomach disease in adult, 536—ab
  congenital stenosis and spasm of, in infancy, 708—ab
  congenital stenosis of, 81—ab, 338—ab, 353—ab, 532—ab, 1284—ab
  congenital stenosis of in adult, 536—ab
Pylorus, congenital, stenosis of, recognition and internal treatment, 2197—ab
  hypertrophic stenosis of, 784—ab
  normal palpation of and expiratory gurgling, 356—ab
  permeability of, new method of estimating, 73—ab
Pyocyanase in diphtheria, 1042—ab
  in diphtheria, scarlet fever and tonsillitis, 1288—ab
Pyogenic processes, and bacterial vaccines in, 792—ab
Pyonephrosis and cerebral abscess, 756—O
  tuberculous, without outward manifestations, 1114—ab
Pyopericardium in children under twelve, 951—ab
Pyrenol tablets and eglatol capsules, 774—ab
Pyrexia, anomalous, in children,1282 ab
Pyroligneous acid, dangers of, 1561—ab

Q

Quack in medicine and pharmacy, 1712
  prosecution of, 329
Quackery and quacks, practical methods of dealing with, 1109—ab
  bill against, 235
  pioneer in fight against, 1898—C, 2074—C
Quacks and quackery, practical methods of dealing with, 1109—ab
  urinalysis by, 238
Quadruplets, birth of, 1869—O
Quassin, 2161
Quebrachin, effects of, on lungs, 1593—O
Quinin, action of, pyretic phase in, 178—ab
  and urea hydrochlorid, hypodermic use of, in diagnosis and treatment of acute and chronic malaria, 1550—ab
  anesthesia, painless tonsillectomy and adenectomy with, 496—O
  as local anesthetic, 690—C
  in syphilis, 84—ab
  intoxication, 267—ab
  isotonic solution of, for intravenous injections, 1040—ab
  large doses of, in dermatitis exfoliativa, 1188—ab
  small doses of, effects of prolonged use of, 1914—ab
  treatment of intolerance of, 1561—ab

R

Rabbit, arterial degeneration in, 1056—O
Rabbits, antigens from, serodiagnosis of syphilis with, 878—ab
  ear, experimental hyperemia in streptococcus infection in, 1913 ab
Rabies in Great Britain and America, 1428—E
  rabicidal properties of human serum after antirabic treatment, 78—ab
  report of committee on standard methods for diagnosis of, 941—ab
  serum, preparation of, 78—ab
  smear method as means of rapid diagnosis of, 288—O
Race suicide and criminal abortion, moral aspects of, 1819—ab
  suicide problem, 249—ab
Rachitis, 443—ab
  and mongolian spots in colored children of Jamaica, 867—ab
  and osteomalacia, 1541—ab, 2189—ab
  and osteomalacia, and influence of suprarenals on bony skeleton, 1377—ab
  and scoliosis, 798—ab
  dental erosions from, with lamellar cataract, 1130—O
  digestive disturbances in, 2192—ab
  early acquired and congenital, 632—ab
  early, clinical research on, 1288—ab
  eburnation of, and bone fragility, 344—ab
  in ancient times, 1474—ab
  suprarenal capsules and, 85—ab
  tardy, 541—ab
Radiographic work, records of, 1796 ab
Radiography in colors, is it possible? 1377—ab
  plastic, 624—ab
Radiotherapy of cancer, biologic principle of, 2010—ab
  of disfiguring affections, 1103—ab
Radium, 1439
  bromid, rather than operation or x ray in early treatment of superficial cancer, 432—ab
  bromid, treatment of superficial cancer, especially epithelioma, 891—O

Radium research, public interest in, 1023
  therapeutic action of, 1283—ab
  treatment of angioma, 797—ab
Radius avulsion of bicipital tuberosity of 1641—ab
  fracture of head and neck of, 77—ab
  lower epiphysis of nailing, 1329—O
  musculospiral paralysis due to dislocations of head of, 1034—ab
Railroad company, legal relations of railroad surgeon to, 1185—ab
  company, railroad employes' hospital association and liability of it and letting insane patient leave unattended, 1104
  employes' hospital association and liability of it and railroad company letting insane patient leave unattended, 1104
  surgeon, legal relations of, to railroad company, 1185—ab
Railway employes paresis and brain diseases in, data regarding, 164—ab
  sanitation, 2188—ab
  surgeons who are not permitted to have passes, 1899
Râle sound, artificially induced, for teaching purposes 1380—ab
Ranula and other diseases of salivary glandular system, 993—O
Rat destruction in Punjab, 1112—ab
  leprosy, 690—ab, 1153—O
Rationalization in everyday life, 2187—ab
Rats destruction of, 1707
Rauch, J H, burial place of, 2228—C
  pioneer in fight against quackery, 2074—C
Raynaud's disease, 1552—ab
  and exophthalmic goiter 178—ab
  erythromelalgia and allied conditions and vascular disease of extremities 1902—ab
  painful feet of 528—ab
Reaction, agglutination value of, and of bacteriologic methods in diagnosis of glanders 2003—ab
  Calmette's ocular See Tuberculin
  convergent in reflex immobility of pupils, 630—ab
Reactions abnormal, to horse serum in serotherapy of cerebrospinal meningitis 2191—ab
Reciprocity, correct attitude regarding, 1620
  regulations in Louisiana, 1351
  state, in dental practice licensing, 563—O
Rectal drainage, in pelvic abscess, 353—ab 711—ab
Rectum and anus bloodless amputation of, 991—O
  and anus primary melanotic sarcoma of, 790—ab
  and sigmoid cancer of, surgical treatment of, 167—ab
  and sigmoid, new position for diagnosis and treatment of diseases of, 1134—O
  and sigmoid, prolapse of, following hysterectomy, 1195—O
  cancer of, 1276—ab
  cancer of anuria with, 2008—ab
  cancer of, treatment of, 360—ab, 1728—ab
  carcinoma of, excision of, by combined method, 791—ab
  careful examination with proper instruments in disease of, 1036—ab
  excision of for cancer, 1107—ab
  excision of, for cicatricial stricture by combined method, with preservation of sphincter, 1282—ab
  rupture of, 264—ab
  sarcoma of, non melanotic, 176—ab
  venereal stricture of, surgery of, 1806—ab
Red cross in antituberculosis war, 2088—ab
  light and measles 837—ab
Reed Dr C A L, announces his views on public health 425
Reflexes in diagnosis, value of, 1037—ab
  in insane, 674—ab
Refraction in Indians fresh from plains 208—O
Refractory period and period of varying irritability in heart muscles, [illegible]0—ab
Refrigerator milk, inexpensive homemade 317—O
Registration in Canada, 1102
  time limit upheld by supreme court 1714
Reinoculation and recultivation of atypical diphtheria cultures, result of, 941—ab
Reinhardt case, 1141—O, 1160—E
  reinoculation and reincubation of atypical diphtheria cultures, result of, 941—ab
Relaxation or strain of sacroiliac joint, condition of, 1734—ab
Religion and psychotherapy, 2221—E
Religious journals and nostrums, 143—ab
Remedies patent for piles, 931—ab
  prescribing and practice of medicine, what constitutes, 1276—ab
Rengo fruit and marmola, composition of, 1439
Reorganization in Maine 336
  standard adopted, 161—ab
Reports state board, 695
Reproductive Organs See Genitalia
Reptiles do not live in human stomach, 149
Rescue work in mines, organized, 412—E
Research and medicine, 1700—E
  defense society, 234
  laboratories of manufacturing pharmacists, 54
  medical, defense of 271 676—E
Resection plastic, to restore function to old amputation stump, 1901 ab
Resorcin, poisoning from external application of, 758—ab
Respiration artificial, apparatus for, when thorax is opened, 2198—ab
  artificial, injuries in new born produced by 2002—ab
  artificial, in its physiologic aspects, 801—O, 803—O, 805—O
  artificial, positive pressure method of, 801—O 803—O 805—O
  nasal, and general diseases, 1456—ab
Respiratory organs, physiology of, 1560—ab
Responsibilities of the hour, Nicholas Senn 961—O
Responsibility, legal, 1807—ab
Rest and exercise in tuberculosis, 2233—ab
  curative effect of in children with persistent loss of appetite, 1917—ab
  treatment in relation to psychotherapy, 164—ab
Restraint, simple, 919—O
Resuscitation after drowning 779
  in apparent death by oxygen and intubation, 2198—ab
  minor points to improve Schulze's swinging in, 1117—ab
  of heart by subdiaphragmatic massage, 1187—ab
Retina, diseases of, 1357—ab
  tear in 1188—ab
Rheumatism, 970
  acute, 345—ab
  acute articular, 1177—ab
  acute articular, bacteriologic study of, 534—ab
  and bee stings 1644—ab
  as after affection of chorea, 715—ab
  in children, peculiarities of symptomatology of 708—ab
  of brain, 717—ab
  nodular, in children, 178—ab
  quack prosecuted for advertising to cure, 379
  serous inflammations due to, 2235—ab
  thyroid, 713—ab
  tuberculous and inflammatory tuberculosis, 1897—ab
  tuberculous articular, 1741—ab
Rhinology, otology and laryngology, borderline of, 361—O
Rhizomelique, spondylose, nervous system in, 463—O
Rhode Island requires graduation, 153
  state board April report, 64
  state board July report, 1620
Rhythms, so called, of growth energy, 252—ab
Rib, first, chondrotomy of, in incipient apical tuberculosis 449—ab
Ribs actinomycosis of, 344—ab
  cervical, surgical importance of, to general practitioner, 1126—O
  painful displacement of, 1554—ab
Rickets See Rachitis
Ringworm epidemic, at St Gallen, 1824—ab
Roaches, destruction of, 516
Rocky Mountain fever in Idaho, 1809—ab
  spotted fever, in Montana and Idaho, 1809—ab
  tick fever clinical phases of, 1809—ab
  tick fever, indications for state control of, 1809—ab
Rodents and men fleas on, on Pacific coast, 495—O
Roentgenology in neurology, 723—O
Roentgen ray, a victim of, 419
  and fractures, 1105—ab
  and high frequency treatment of leprosy, 1112—ab
Roentgen ray and operative treatment, congenital sarcoma of femur cured by, 1286—ab
  as aid to diagnosis of tuberculosis of lungs, with demonstration of skiagrams and new orthodiascope, 1304—ab
  behavior of animals in response to bacterial infection after exposure to, 449—ab
  detection of incipient pulmonary tuberculosis, 715—ab
  diagnosis and treatment of fractures, 68—ab
  diagnosis in tuberculosis of bronchial glands and apices, 1192—ab
  diagnosis of chest conditions, 1624—ab
  diagnosis of joint tuberculosis, 1642—ab
  diagnosis of pulmonary tuberculosis, 940—ab 1254—ab, 1283—ab, 1897—ab
  diagnosis of renal and ureteral calculi, 169—ab
  diagnosis of stricture of esophagus, 1806—ab
  discussion of evidence and law in action for malpractice in use of, 1182
  dosage, 1382—ab
  effects of on young amphibians, 516—ab
  examination obscure fractures discovered by, 790—ab
  examination of esophagus, 1901—ab
  how to outline heart with, 1380—ab
  in epithelioma, 1761 O
  in exophthalmic goiter, 1474—ab, 1543—ab, 1638—ab
  in myelogenous leukemia, 708—ab
  in neurology, 723—O
  in cutaneous tuberculosis 261—ab
  inspection of thorax in dyspnea patients, 874—ab
  medicolegal status of, 1037—ab
  motor functions of stomach as demonstrated by, 710—ab
  or operation, radium bromid rather than in early treatment of superficial cancer, 432—ab
  palliative treatment of malignant diseases by, 947—ab
  photography instantaneous, 1895—ab
  plates of fracture from Massachusetts general hospital, 432—ab
  radium bromid rather than operation or, in early treatment of cancer, 432—ab
  treatment and general practitioner, 541—ab
  treatment of deep seated processes, technic for 264—ab
  treatment of fractures as affected by, 431—ab
  treatment of hypertrophied prostate, 1808—ab
  tumors 1287—ab
  uses dangers and abuses, 1763—O
  uses of by general practitioner, 1186—ab
Room disinfection new and efficient method of 438—ab
Roosevelt, President and department of public health, 1338—E
Royal College of Surgeons women refused admission to, 510
Rubber tissue, treatment of burns by 333
  tubing vessel anastomosis by means of, 1550—ab
Rubner, medal for, 49
Russia, cholera in, 610—E, 1978—E

S

Saccharometer, new for use with Fehling's solution 496—O
Sacroiliac disease, 1105—ab
Sacrosciatic foramen, hernia in, 356—ab
Saline enemas continuous in peritonitis, apparatus for, 406—O
Saliva, cat's, diastase in 350—ab
  diagnostic power of, 1618
Salivary glands neurasthenia from insufficiency of 59—ab
Salt, alleged antitoxic action of, 147—ab
  and gastric secretion, 537—ab
  and sugar solutions infusion of, in infants, 630—ab
  and water, pathology of metabolism of 1559—ab
  metabolism and ash free diet experiments on, 727—O
  metabolism in pneumonia, 446—ab
  solution normal, in septic peritonitis, 1726—ab
Salts and non electrolytes influence of on heart 550—ab
  physiologically isotonic solution of, experiments toward, 752—O
Sanatoria for women with tuberculosis 1269—ab
  requirements for prophylaxis and treatment of tuberculosis in, 1269—ab
  treatment of consumptives in their homes and places other than, 1806—ab
  treatment of tuberculosis in, and entire change of climate, comparative importance of, 1173—ab, 1254—ab, 2088—ab
  tuberculosis, cost and maintenance of, with special regard to institutions operated by life insurance associations, 1896—ab
Sanatorium, tuberculosis, New Hampshire state, 162—ab
  work, experience with tuberculosis in, 1806—ab
Sanitary problems 342—ab
  regulations, reform in, proposed, 236
  supervision, state, 1184—ab
Sanitation and hygiene, domestic, municipal, national and international, 869—ab
  army camp, 1969—ab
  in Africa, 2182—ab
  in ankylostomiasis in tropics, 1907—ab
  Panama, Treves commends, 651—ab
  problems of, 950—ab
  railway, 2188—ab
  rural, and farm commission, national, 679—E
  triumph of, at Panama, 764—E
Santonin treatment of dysentery, 1469—ab
Saranac laboratory, experimental work relative to opsonins at, 166—ab
Sarcoma and diseases of blood, 2004 ab
  conservative treatment of, 1037—ab
  Hodgkin's disease a type of, further evidence in support of theory, 353—ab
  idiopathic multiple hemorrhagic, 1205—O
  mediastinal, differential diagnosis of 1806—ab
  melanotic, of common bile duct and ampulla of Vater, 260—ab
  of appendix and primary carcinoma, 260—ab
  of chorioid, 1188—ab
  of femur, congenital, cured by operative and x ray treatment, 1286—ab
  of great omentum, primary, 81—ab
  of liver primary, 800—ab
  of lymph glands, simulating granuloma, 539—ab
  of rectum and anus, primary melanotic, 790—ab
  of rectum, non melanotic 176—ab
  of uterus, perithelial, 1227—O
  results in treatment of, 1037—ab
Sausages and their hygienic preparation examination of, 952—ab
Sawdust bread in habitual constipation, 539—ab
Scalp tumor, giant, 1913—ab
Scaphoid ankle region injuries, especially of, 1114—ab
Scapula, endothelioma of with removal of entire bone, 757—O
Scar formation, possibility of avoiding in softened tuberculosis of cervical glands, 1628—ab, 2000—ab
  reduction of size of, by application of iodin 956—ab
Scarlatina and measles, complicated by otitis media, treatment of, 1279—ab
  hydrotherapy in, 1304—O
Scarlatinal joint affections, 874—ab
Scarlet fever, 693 ab, 1375 ab, 1407 O
  and erysipelas 1651—ab
  causal germ of, 1739—ab
  diphtheria and tonsillitis pyocyanase in, 1288—ab
  epidemic of hemorrhagic nephritis following, 1410—O
  complement fixation in 1911—ab
  home treatment of, 1907—ab
  patients behavior of serum of, in syphilis serum test, 1470—ab
  perforation of empyema in ethmoidal and frontal sinuses into orbit, typical complication of, 1645—ab
  treatment of, 1042—ab, 1823—ab
  without rash, 933
  wound, 2035—ab
Scarlet oil, influence of, on mouse tumors, 2197—ab
Scars burn, operation for, 526—ab
Scharlach R salve, healing of granulations under, 1561—ab
Schistosomum mansoni Sambon 1907, what is 1905—ab
School age 532—ab
  age pulmonary tuberculosis in children of 1112—ab
  and doctors, 540—ab

- School Children: See Children
  - for scandal, modern, 323—E
  - hygiene, second international congress on, 340—ab
  - public, education, 157—ab, 867—ab
  - public, instruction in New Jersey, 1529
  - rooms, artificial illumination of, 1905—ab
- Schools, Medical: See Medical Colleges
  - open air, 510
  - public, eye conditions in, 789—ab
  - tuberculosis, education in, 1358—ab
- Sciatica, 250—ab, 354—ab, 1552—ab
  - from lemonade, 1081—ab
  - surgical treatment of, 715—ab, 800—ab
- Science, newspapers as guide to, 1667-ab
  - recent advances in, and bearing on medicine and surgery, 1553—ab
- Sciences, fundamental, teaching of, 1620
- Sclerosis, acute disseminated, 628—ab
  - coronary artery, 1465—ab
  - incipient multiple, importance of *disturbances in optic nerve in*, 1470—ab
  - insular, 1036—ab
  - middle-ear, 364—O
  - multiple, diagnosis of, 949—ab
  - multiple, optic nerve changes in, 120—O
  - of lymphatics corresponding to arteriosclerosis, 1475—ab
- Scoliosis and rachitis, 798—ab
- Scopolamin, 1511
- Scopolamin-morphin and chloroform anesthesia, 1377—ab, 1468—ab
  - anesthesia, 714—ab
  - anesthesia in gynecology, 267—ab
  - in obstetrics, 175—ab, 177—ab, 1827—ab
- Scorbutus, pathology and anatomy of, 1913—ab
- Scotch lunacy administration, fifty years of, 2084—ab
  - rub, 1699
- Scotland, fighting tuberculosis in, 685
- Screw *apparatus to promote healing* of fractured patella, 1381—ab
- Scurvy, infantile, 257—ab, 259—ab
  - infantile, causation and treatment of, 1907—ab
- Sea *sickness and pelvic pathology*, 2190—ab
  - water in tuberculosis and other diseases, 2075—C
- Seborrhea and its sequelæ, 1281—ab
- Secretaries, state, and editors of state journals, association of, 145
- Secretion from pancreas fistula and influence on it of antidiabetic diet, 1380—ab
  - internal, reciprocal action of glands with, 1475—ab
  - special, in testicles, indications of, before puberty, 2085—ab
- Self-repair, therapeutics of, 708—ab
- Seminal vesicle or prostate, inflamed, determination of gonorrheal in*fection in*, 1108—ab
- Senn, Nicholas, in memoriam, 961—O
- Sensation, phrictopathic, significance of, 792—ab
- Sensism and cognition, 1552—ab
- Sensory impulses in spinal cord, course of, 163—ab
- Sepsis, bacterial vaccines in, 792—ab
  - meningococcus, 1561—ab
  - postoperative, as important lethal factor, in amebic abscess of liver, 1821—ab
  - puerperal, 2094—ab
  - puerperal, major operations in treatment of, 952—ab
- Septicemia in human plague, experiments on infectivity of excreta, 628—ab
  - secondary cancer, 2236—ab
  - tuberculous, subacute forms of, 873—ab
  - with acute fibrinopurulent pericarditis, and hypopyon iritis caused by *meningococcus*, 1903—ab
- Septum, nasal, typical crest-shaped deflection of, 222—O
- Sera, fresh animal, in hemorrhage, 432—ab, 437—ab
  - *normal, antagonistic power of*, 1469—ab
- Serious illness, what constitutes, 72
- Serodiagnosis in hereditary syphilis, 1602—E
  - in inherited syphilis, fixation of complement in, 1911—ab
  - in mothers of infants with inherited syphilis, 876—ab
  - of staphylococcus affections, 2194-ab
  - of syphilis, 13—ab, 87—ab, 824—O, 876—ab, 878—ab, 944—ab, 1285—ab, 1602—E, 1895—ab, 1911—ab, 1994—ab, 2009—ab, 2011—ab, 2096—ab, 2149—O
- Serodiagnosis of syphilis, and mental affections, 1285—ab, 1894—ab
  - of syphilis, comparison of alcoholic and watery extracts in, 2149—O
  - *of syphilis, technic of*, 953—ab, 1117—ab
  - of tuberculosis, 1362—ab, 1756—O
- Serotherapy and prognosis, under various forms of therapy, of cere*brospinal meningitis*, 1371—ab
  - in meningococcus hydrocephalus, 65—ab
  - in tuberculosis, and endobacillary albuminoids, 1740—ab
  - new generalization in, 172—ab
  - of carcinoma, 1488—O
  - of cerebrospinal meningitis, 15—O, 21—O, 65—ab, 66—ab, 269—O, 1184—ab, 1193—ab, 1315—O, 1318—O, 1371—ab, 1645—ab, 1819—ab, 1907—ab, 1913—ab, 2191—ab, 2234—ab
  - of gonorrheal vulvovaginitis in children, 169—ab, 1298—O, 1301—O
  - of meningococcic meningitis, 1819—ab
  - *of nephritis*, 1738—ab, 1823—ab
  - organic, 1546—ab
  - present status of, 1902—ab
  - prevention of fatal intoxication following, 1158—E
- Serous cavities, diagnostic value of cytologic examination of tuberculous effusions in, 1898—ab
- Serum and urine of syphilitics, complement-binding substances in, 1142—O
  - *antigonococcus*, 105—O, 161—ab, 1900—ab
  - antigonococcus, in gonorrheal arthritis 674—O
  - antimeningitis, use of, 15—O, 21—O, 65—ab, 66—ab, 269—O, 1184—ab, 1193—ab, 1315—O, 1318—O, 1645—ab, 1819—ab, 1907—ab, 1913—ab, 2191—ab, 2234—ab
  - antitoxic, preventive injections of, in tetanus, 173—ab
  - beef, in ophthalmia neonatorum, 876—ab
  - blood phagocytosis in, when mixed in vitro with horse serum, 951—ab
  - Cuguillere's, 1990
  - *Deutschmann's, against infectious* diseases, 438—ab
  - diagnostic significance of antitryptic power of, 2009—ab
  - disease as clinical manifestation of anaphylaxis, 709—ab
  - horse, abnormal reactions, in serotherapy of cerebrospinal meningitis, 2191—ab
  - horse, anaphylaxis to, 840—O, 1184—ab
  - horse, hot, in treatment of burns, 229—ab
  - human blood power in cancer, 83—ab
  - human, in cerebrospinal fever, 1085—E
  - *human, rabicidal properties of, after* antirabic treatment, 78—ab
  - immunization, and tuberculo-toxoidin, 1446—ab
  - Maragliano's, 1360—ab
  - Maragliano's untoward effects following use of, 2188—ab
  - Marmorek's, in joint tuberculosis, 342—ab, 1553—ab
  - Marmorek's in surgical tuberculosis, 1474—ab, 1913—ab
  - normal, opsonins in, specificity of, 256—ab
  - normal, thermolabile and thermostabile opsonic substances in, interaction of, 256—ab
  - of animals, presence of nephrotoxic substances in, with experimental nephritis, 1903—ab
  - of scarlet fever patients in syphilis serum test, 1470—ab
  - sickness from antitoxin treatment of tetanus, 97—ab
- Sexual hygiene, 710—ab
- Services, contracts and compensation for, 1637—ab
- Sewage and water, committee on standard methods of chemical analysis of, 942—ab
  - disposal, 1244
  - filter effluents, stability and putrescibility of, 942—ab
  - may not drinking water when polluted with, be one medium of *dissemination* of tubercle bacillus? 380—O
  - purification, Hampton interpretation of operation of, 1111—ab
- Shock and its treatment, 1905—ab
  - can operation be done for extrauterine *pregnancy during?* 2009—ab
  - nature of, 1462—ab
- Shock, heart in, 69—ab
  - or fright, liability for, Ohio against, 1729—ab
  - surgical, 165—ab
  - surgical, production and control of vascular atony of, 1377—ab
- Shoemakers' last, new form of, and balance, 431—ab
- Shoulder joint, fracture-dislocation of, 74—ab
  - joint, mechanics of, from an anatomic viewpoint, 527—ab
  - joint, periarthritis of, 432—ab, 1639—ab, 1730—ab, 1815—ab, 1901—ab, 2234—ab
  - paralysis of, 525—ab
- Shoulders; stiff and painful, subdeltoid or subacromial bursitis, 432—ab, 1639—ab, 1730—ab, 1815—ab, 1901—ab
- Sialolithiasis, 1599—O
- Sick benefit society, medical council conflicts with, 51
  - principles of feeding, 955—ab
- Sickness, monthly, as evidence of age, 2232
- Sigmoid, acute diverticulitis of, with operation before rupture, 543—O
  - and rectum, cancer of, surgical treatment of, 167—ab
  - and rectum, new position for diagnosis and treatment of diseases of, 1134—O
  - and rectum, prolapse of, following hysterectomy, 1125—O
- Silver, nitrate, in typhoid, 1281—ab
- Simulation, hypochondria, neurasthe*nia and hysteria, distinction between*, 784—ab
- Singers' nodules in larynx, etiology and treatment of, 1040—ab
- Sinus, external frontal, operation on without deformity, 452—O
  - *of first branchial cleft*, 1033—ab
  - pilo-nidal, 316—O
  - sphenoid, 2103—O
  - sphenoid, empyema of, radical operation for, 2108—O
- Sinuses, adjacent, and orbit, mixed *streptococcus and pneumococcus* infection of, 1905—ab
  - and abscesses, tuberculous, prevention, diagnosis and surgical treatment of, 1540—ab
  - *frontal and ethmodial, perforation* of empyema in, into orbit, typical complication of scarlet fever, 1648—ab
  - nasal accessory, orbital complications in disease of, surgical treatment of, 299—O
  - lateral and superior longitudinal, thrombosis of, complicated by pregnancy, 997—O
  - tuberculous, bismuth paste treatment of, 860
  - tuberculous, treatment of, 342—ab, 709—ab, 1552—ab
- Sinusitis, antral, relation of, to hay fever and asthma, 352—ab
- Skeleton, bony, influence of suprarenals on, in osteomalacia and rachitis, 1377—ab
  - rachitic changes in, in ancient times and middle ages, 1474—ab
- Skiagrams and new orthodiascope, demonstration of, 1904—ab
- Skin, arsenic in diseases of, 259—ab, 1482—O
  - blastomycosis of, 67—ab
  - carbon dioxid snow in lesions of, 356—ab, 1037—ab
  - dermolysis an undescribed dissolution of, 710—ab
  - diseases in children, 1973—ab
  - epitheliomas, unusual forms of, 1398—O
  - eruption, specific, in pneumonia, 2190—ab
  - grafting, 1185—ab
  - hygiene of, 1895—ab
  - infection in tuberculosis, 1254—ab
  - infection of, prevention of during operation, 621—ab
  - *inoculation of tuberculin in tuber*culosis, 1253—ab
  - integumental tuberculin reactions, with report of Moro inunction reactions, 1271—ab
  - lesions, 249—ab
  - method of sterilizing, for operations, 2012—ab
  - nevi and other lesions of, carbon dioxid snow in treatment of, 356—ab
  - of guinea-pig, transplantation of, into different species, 158—ab
  - painful zones in, in disease of viscera, 944—ab
  - reaction to diphtheria antitoxin, 1510—O
  - reaction to tuberculin, 873—ab, 1192—ab, 1362—ab; 1741—ab, 1756—O, 1912—ab
- Skin reaction to tuberculin during measles, 798—ab
  - reaction to tuberculin in children *and infants*, 540—ab, 1627—ab, 1912—ab
  - reaction to tuberculin on two hundred postmortems on children, 1361—ab
  - removal of gunpowder grains from, 1716
  - syphilis, diagnosis of, 791—ab
  - therapeutic action of adrenalin applied to, 1908—ab
  - tuberculosis, x-ray in, 261—ab
- Skull, extensive syphilitic necroses of. easy way for removing, 872—ab
  - fracture of base of, with diastasis of left temporo-parietal articulation, ending in complete recovery 1818—ab
  - fractures, injuries of cranial nerves from, 271—O
  - hyperalgetic zones after injuries of, 448—ab
- Sleeping, outdoors, in asthma and *other chest troubles*, 354—ab
- Sleeping-sickness; agreement with Germany, 1244
  - bureau, first report of, 1984
  - diagnosis of, from examination of blood, 1185—ab
  - new commission on, 419
- Smallpox and cholera in Philippines, 1021
  - in Philippines, 1021
  - mercury and chalk in, 2191—ab
  - *present management of, in Minne*sota, 2001—ab
  - prevention of, 939—ab
  - quarantine of, 2151—O
- Smell and taste, cerebral centers for, and uncinate group of fits, 879—O
  - subjective sensations of, and their significance, 1186—ab
- Smoke, bituminous coal, its chemistry and effects on health of man and plants, and on works of art *and commerce*, 1815—ab
  - coal, abatement society, 1345
  - nuisance, 1111—ab, 1340—E
- Snake poisoning in United States, 132—E, 947—ab
- *Snoring, mouth-breathing* etc., 793—ab
- Soap, antiseptic powder of, 517
  - concretions in cholelithiasis, 674—O
- Social evil, effective method of dealing with, 1634—ab
- Society and malnutrition, 1278—ab
- Sodium cacodylate in skin diseases, 1482—O
  - carminate, indigo carmin and methylene blue, kidney secretion of, 1108—ab
  - chlorid content of blood and other body fluids, determination of, 478—O
  - nitrite in pulmonary hemorrhage, 869—ab
  - perborate, 857—O
  - saccharate solution, *tonic action of* by rectum, 87—ab
  - salicylate in sympathetic ophthalmia with, 1652—ab
  - succinate, caulophyllum and apocodein, *uses of*, 692
  - succinate in gallstones, 933
- Solution of salts, physiologically isotonic, experiments toward, 752—O
- Somnoform, safety of, 1799
- Sore throat, serious epidemic of, traced to milk, 58—ab
- South America, plague in, 138
- South-Carolina medical news, 926, 2067, 2167
  - state board June report, 1099
- South-Dakota, McCormack's tour of, 1025
  - medical news, 853, 1089, 2167
- South, prosperity of, problems in medicine which affect, 1805—ab
- Southern Medical Journal, 234
- Spasm in children and lime metabolism, 874—ab
- Spasms, control of, by asphyxiation, 1278—ab
- Spätapoplexie, 164—ab
- Specialist, title of, 1167
  - *and metropolitan* institutions, country physician's relations with, 433—ab
- Specialities, elegant, 1880
- Specific gravity and volume of organs, 1816—ab
- Spectacle frames, *adjustment of*, for infant, 1565—ab
- Speculum, ear, with handle, 1330—O
- Speech disturbances in children, general pathology and symptomatology of, 798—ab
- Spermatozoa, *motility of*, in epididymis, 1424—O

Sphenoid, ethmoid and antrum, submucous resection of lateral nasal wall in chronic empyema of, 1136—O
Sphincter control, colostomy by new method with attempt at, 2093—ab
  preservation of, in excision of rectum for cicatricial stricture by combined method, 1282—ab
Sphincters urethral and vesical, suture of, for incontinence of urine, 161—ab
Sphygmobolometer, examination with, 175—ab
Sphygmomanometroscope, universal, 2084—ab
Sphygmomanometry, simple device for facilitating, 919—O
Sphygmotonograph and its findings, 1475—ab
Spinal anesthesia, 450—ab, 716—ab
  and Cesarean section 176—ab
  in gynecology, 716—ab
Spinal cord course of sensory impulses in, 163—ab
  gunshot wounds of, operative treatment of 1471—ab
  rupture of, survival after, 235
  surgery, diagnosis in, 1818—ab
  transverse severing of at third dorsal vertebra, 449—ab
  tumors, prognosis of, with operation, 164—ab
Spine lateral curvature of etiology and treatment of, 526—ab
  typhoid, 528—ab
Spirochæta duttoni, characteristic of, 2187—ab
Spirochæta pallida, clinical value of, in diagnosis and treatment of syphilis, 1925—O, 2034—O
  demonstration of, by method of dark field illumination, 705—ab
  presence of, in syphilitic placenta, 2004—ab
Spirochetes in lungs, 1885
Spirosal, 1513
Splanchnoptosis, rational treatment of 1550—ab
Spleen enlargements of, other than leukemic, 1736—ab
  hydatid cysts of, 873—ab
  injuries surgery of, 1458—ab
  method of encapsulation of, 1458—ab
  subcutaneous rupture of, 790—ab
Splenectomy, 790—ab
  in Banti s disease, 260—ab
  splenic anemia and recovery, 866—ab
Splenomegaly, splenectomy in, 260—ab
Splint, improved Hodgen, for fractures of thigh, 167—ab
  intranasal, and combined bridge, for depressed deformities of nose, 1421—O
Splintage, direct and internal, by operation in fractures of forearm bones, 1379—ab
Spondylose rhizomelique, nervous system in 463—O
Sponge, gauze, intestinal obstruction by, 841—O
  to prevent leaving one in abdomen 1355—ab
Spores developed at an elevated temperature 2000—ab
Sporotrichosis 500—E
Sprains treatment of, 170—ab
Sputum, an error sometimes made in examining for tubercle bacilli, 2055—ab
  glycogen in, diagnostic significance, 1561—ab
  stained specimens of, diagnosis of influenza from morphologic standpoint in, 166—ab
  tuberculosis with and without tubercle bacilli, 1828—ab
Squirrels ground, plague in, 1349—C
Stain, Hasting's, for blood, technic of, 2230
Sta[illegible] and sapro-[illegible] 1256—ab
  [illegible] serodiag[illegible] of, [illegible]
  infection of genitals, 2008—ab
  infection puerperal, 515—ab
Starch and laudanum enema, formula of, 1619
Starches importance of, in infant feeding 1630—ab
State board reports, 695
  requirements of preliminary education 604
  statistics errata in, 152
State, duty of, to physician, 1727—ab
  society, work of one, 241
State municipalities and medical education 606—E
Static brush discharge concentrated to blue pencil point, 1890—ab
Statistics, vital, 2051—O
Statistics, vital, and public health, 249—ab
  vital, lack of, 413—E
  vital, registration of, 2212—O
  vital, registration of, in Pennsylvania, 133—E
Status lymphaticus in tonsil and adenoid operation, 1185—ab
Steamships, drinking water on, 2191—ab
Stearns, Frederick & Co, patent medicine vendors, 237
Steinhof lunatic asylum, 2171
Stenosis and tumor, ileocecal tuberculosis causing, pathology and therapy of, 2005—ab
  congenital hypertrophic, and spasm of pylorus in infancy, 708—ab
  congenital, of pylorus in adults, 536—ab
  congenital pyloric, 532—ab, 708—ab, 784—ab, 1284—ab, 2197—ab
  congenital pyloric, recognition and internal treatment, 2197—ab
  esophageal, further aid in diagnosis of, 1640—ab
  laryngeal treatment of including intubation by dorsal method, 621—ab
  mitral and relative insufficiency of *pulmonary valves*, 2196—ab
Sterilization of rubber gloves, 1117—ab
  of skin for operation, 2012—ab
Sternomastoid treatment of wry neck by lengthening, 1190—ab
Stimulants in pediatrics, indication for, 257—ab
  used in cooking, 1185—ab
Stockholm, medical historical exhibition at, 328
Stomach, abnormal motility of, valuable factor in diagnosis of gastric lesions, 1106—ab
  affection, pneumococcus, 875—ab
  and bowel disturbances, commonly overlooked causes for, 1250—ab
  and colon pathology of fistula between, 448—ab
  and duodenum, benign diseases of, late results after operations for, 260—ab
  and duodenum, direct visual inspection of, and diaphanoscopy, 1476—ab
  and duodenum, round ulcer of, 533—ab
  and intestinal gases, 1462—ab, 1549—ab
  and uterus 1005—O
  Cancer and carcinoma of See Gastric Cancer
  changes in chemistry of, after gastroenterostomy, 1910—ab
  content, analysis of, after gastroenterostomy, 625—ab
  content, hemolytic substances in and their importance in diagnosis of gastric carcinoma, 2007—ab
  content, importance and significance of chemical examination of after test meal, 710—ab
  content, occult blood in, and early [illegible] gastrointes[illegible] ab
  [illegible] of, and [illegible] pancreatic secretion from, 1380—ab
  dilatation, acute, of, 1192—ab, 1424—O
  dilatation of, 67—ab, 68—ab, 2188—ab
  dilatation of, and position differentiation and treatment of atony, 2007—ab
  dilatation of volvulus of, 1616—C
  diseases of doubtful nature, plea for early exploratory laparotomy in, 624—ab
  diseases oil in, 2009—ab
  disorders, modern surgery in relief of, 792—ab
  functioning, neutral red soup test of, 1381—ab
  hourglass, in children, 1472—ab
  infantile, development of, 1750—O
  inflation of, and lavage, rapid test meal removal, 1250—ab
  lavage and test meal removal, device for facilitating, 673—O
  microchemical test for mucus in, 2099—ab
  motor functions of, (a) in normal cases, (b) after gastroenterostomy, as demonstrated by x rays 710—ab
  mucous membrane of, diagnostic value of perverted secretion of hydrochloric acid by, 1635—ab
  mucous membrane, direct inspection of, 795—ab
  neurose, 74—ab
  overdistention and overwork of, when food is eaten too rapidly, 713—ab
Stomach polyps in, 448—ab
  protection of, against autodigestion, and antipepsin for treating gastric ulcer, 1558—ab
  secreting functions, influence of hydrogen dioxid on, 1910—ab
  secretion, influence of nutritive enemata on, 315—O
  secretion and salt, 537—ab
  secretion of, in old age, 349—ab
  surgery 1822—ab
  tests, functional in diagnosis of ulcers of stomach 1114—ab
Stomatology, educational requirements and opportunities in, 7—O
Stone See Calculus
Stools and urine, toxicity of, and intestinal putrefaction in infants fed on foods rich in albumin, 360—ab
  character of, and intestinal findings in diarrheal affections of infants, 1306—O
  facilitation of detection of eggs of parasites in, 1193—ab
  infant, hard curds of, origin, nature and transformation, 247—ab
  normal standards for proportions of constituents of, 1114—ab
  occult blood in, and early diagnosis of organic gastrointestinal affections, 83—ab
Stooping, interference with heart action by, 265—ab
Stovain anesthesia 1287—ab
  anesthesia, modifications in nervous system after, 955—ab
  anesthesia, deaths after, 1190—ab
Strain or relaxation of sacroiliac joint condition of, 1734—ab
Streptococci, hemolytic, in puerperal infection, 1113—ab
  virulent hemolytic, differentiation of, 1383—ab
Streptococcus infection of intestinal tract 1236—E
  infection of rabbit's ear, experimental hyperemia in, 1913—ab
  and pneumococcus infection of orbit and adjacent sinuses, 1905—ab
Striæ atrophicæ as sequel of acute pneumonia 1190—ab
Stricture, cicatricial, excision of rectum for, by combined method, with preservation of sphincter, 1287—ab
  impassible of urethra, retrograde catheterization in surgical treatment of, 167—ab
  of membranous urethra, 159—ab
  venereal, of rectum, surgery of, 1806—ab
Strophanthin, intravenous, treatment, 174—ab
Strychnin sulphate and ergotinin citrate tabloid, 2161
Student s number, London Lancet, 1111—ab
Study trips abroad, medical, 50
Stump old amputation, plastic resection to restore function to, 1909—ab
  painful nerve resection for, 333
Styles lead, treatment of strictures of nasal duct with, 1207—O
Suboxidation general, from prolonged unremitting effort, both physical and mental, 1374—ab
Substitution, protection against, 330—O
Suburethral abscess in woman, 797—ab
Sugar and salt solutions, infusion of, in infants 630—ab
  determination of, in urine, 774—C
  excretion influence of cold and mechanical exercise on, in phlorid zen glycosuria, 350—ab
  titration of, rapid and precise determination of terminal reaction in, with Fehling s solution, 1288—ab
Suicide and prophylaxis, 226—E
Sulphate ethereal in urine in gastrointestinal autointoxication, 1822—ab
Sulphite in adnephrin solution (Stearns) report of Council on Pharmacy and Chemistry on, 1524
Sulphocyanates, solvent action of, on lime and magnesium deposits in system, 621—ab
Sulphonal, 1782
Sunlight, excessive, dangers of, in tuberculosis, 1106—ab
  sterilizing action of, on hide, 663—ab
Sun rays and artificial heat, classification of effects of, 625—ab
  rays, unmodified, in lupus vulgaris, 1821—ab
Superstition how they are reinforced, 761—E
Suppuration, chronic, above tympanum, conservative treatment of, 799—ab
  hyperemic treatment of, 1286—ab
Suppurations, acute, criticism of treatment of, by passive hyperemia and cupping, 1640—ab
  antiferment treatment of, 2193—ab
Suppurative processes, antiferment treatment of, without incision, 339—ab
Suprarenal alkaloid, presence of sulphite in commercial solutions of, report of Council on Pharmacy and Chemistry on, 1525
  and pituitary bodies, extracts of, inhibition of pancreatic activity by, 1642—ab
  extract in aortic insufficiency, 450—ab
  origin of tumors and hypernephroma of kidney, 1460—ab
  preparations in obstetrics, importance of, 630—ab
  tissue in kidney, experimental transplantation of, 355—ab, 2095—ab
  transplantation, further results in, 640—O
Suprarenals and rachitis, 85—ab
  hemorrhage of, in infants, 1964—O
  hyperplasia of hypophysis, hypertrophy of heart and arterial hypertension, 796—ab
  in puerperal eclampsia and pregnancy nephritis, 81—ab
  influence of, on bony skeleton in relation to osteomalacia and rachitis, 1377—ab
  lesions of, and chronic nephritis and arteriosclerosis, 2089—ab
  tuberculosis of, and congenital syphilis, 176—ab
Surgeon, conservative, and symptomless uterine fibroid, 972—O
  country, 784—ab, 1465—ab
  General of Army, new, 1786—E
General of Army, report of, for 1908, 1872—E
Surgeons, power of conductors to employ, in emergency cases, 1814
Surgery, American, as it appears to Austrian surgeon, 2171
  and medicine, evil tendencies in, 2088—ab, 2234—ab
  and medicine of Northwest, organization and centralization of, 1109—ab
  and medicine, oxygen in, 626—ab
  and medicine, recent advances in science and their bearing on, 1553—ab
  and tabes, 796—ab
  antiseptic, points in history of, 353—ab
  debts which medical science owes to, 352—ab
  dental and major, nitrous oxid and oxygen in, 907—O
  general, and disease of maxillary antrum, 2007—ab
  major, growth and development of, in smaller cities, 433—ab
  modern, in relief of stomach disorders, 792—ab
  modern achievements of, 1549—ab
  of lungs, 801—O, 803—O, 805—O, 808—O, 2193—ab
  of uterine adnexa, conservatism in, 786—ab
  plastic, of pelvic outlet, 532—ab
  prophylaxis in, 789—ab, 794—ab
  when shall physician distrust his own judgment in, 620—ab, 868—ab
Surgical affections, zinc gelatin dressings in, 2010—ab
  infections, vaccine therapy in, 1535—ab
  rights of public, 864—ab, 1037—ab
  situation, 1901—ab
Suture, primary, in severe gunshot wounds of lung by, 1471—ab
Sutures, rubber, intestinal anastomosis of mucosæ with, 559—ab
Sweat secretion in high altitude, 101—ab
Sweating, desquamation from, 1328—O
  local, in tuberculosis 225
  value of, in internal affection of eye, 1512
Sweden, campaign against tuberculosis in, 1054—E
Swimming tank, menace of, 255—ab
Sydenham, method of, greater than method of laboratory, 1467—ab
Symbiosis, influence of, on pathogenicity of micro-organisms, 592—ab
Symphyseotomy during pregnancy, 1646—ab
Symptomatology of diseases of childhood, 1454—ab

Syncitioma or chorioepithelioma of placenta, 167—ab
Syncytium, its functions and relations to toxemia of pregnancy and to cancer, 947—ab
Syndrome, paroxysmal, probably allied to recurrent vomiting, 2002—ab
Synovial membrane, pathogenesis of ganglia, and structure and development of, 707—ab
Synovitis of knee-joint as late manifestation of acquired syphilis, 1901—ab
Syphilids, local injections of mercury in, 172—ab
Syphilis, 407, 444—ab, 1641—ab, 1644 *—ab, 2031—O*
  Adams-Stokes' syndrome due to, 1475—ab
  and tabes, 634—ab
  clinical value of spirochæta pallida in diagnosis and treatment of, 1928—O
  complement-binding test for, 2096—ab
  congenital, and progressive paralysis, 1561—ab
  congenital, and tuberculosis of su*prarenals, 176—ab*
  consequences of, 539—ab
  cutaneous, diagnosis *of*, 791—ab
  diffuse interstitial keratitis in, 292—O, *1905—ab*
  etiology, diagnosis and treatment, 1178—ab
  extensive necrosis of skull in, 872—ab
  failure of calomel salve to protect against, 176—ab
  hereditary, 532—ab
  hereditary, aural manifestations, 81—ab
  hereditary, brain findings in infants with, 1912—ab
  hereditary, complement fixation in, 1911—ab
  hereditary, serodiagnosis in mothers of infants with, 876—ab
  hereditary, serodiagnosis of, 1602—E
  in childhood, 438—ab
  in Uganda, 1430—E, 1436
  incubation in, 2094—ab
  inhalation of mercury in, 1289—ab
  intramural injections of salicylate of mercury in treatment of, 793—ab
  is mercury a specific in infectious and contagious diseases as well as in, 1625—ab
  late, mercury for, 1954—O
  late, of uterus, and uterine cancer, diagnosis of, 268—ab
  mercury hypodermically in, 1990
  mineral waters in, 1039—ab
  nervous manifestations of, 1894—ab
  of bone and joints, 947—ab
  of liver, protracted fever in, 1193—ab
  of lungs, 268—ab, 1192—ab
  origin of, and invention of its name, 1729—ab
  paralysis and neuralgia of, 81—ab
  placental, 2004—ab
  presence of complement-binding *substances in serum and urine in*, 1142—O
  quinin in, 84—ab
  reinfection with, 790—ab
  synovitis of knee joint as late manifestation of, 1901—ab
  serodiagnosis of, 13—ab, 87—ab, 824—O, 876—ab, 878—ab, 944—ab, 1285—ab, 1602—E, 1895—ab, 1191—ab, 1994—ab, 2009—ab, 2011—ab, 2096—ab, 2149—O
  serodiagnosis of, and mental affections, 1285—ab, 1894—ab
  serodiagnosis of, comparison of alcoholic and watery extracts in, 2149—O
  serodiagnosis of, in insane, 2008—ab
  serodiagnosis of, in obstetrics, 798—ab
  serodiagnosis of, technic of, 953—ab, 1117—ab
  serum test, behavior of serum of *scarlet fever patients* in, 1470—ab
  spirochæta pallida in, influence of discovery of, 1928—O, 2034—O
  tabes dorsalis and paralysis in light of recent research on, 1558—ab
  tertiary, after thorough mercurial treatment, 541—ab
  tertiary visceral, intermittent or prolonged fever with, 1193—ab
  women with, antibodies in milk of, 1409—ab
Syphilitic crises simulating surgical emergencies, 1805—ab
Syphilitics, evolution and treatment *of* tuberculosis in, 1822—ab
Syringe, Luer glass hypodermic, *method of removing plunger from, 572—O*
Syringomyelia and dystrophy, 1913—ab
  in case of cerebellar symptoms with *hydrocephalus, 1933—O*

SOCIETIES.

Abbreviations:
Acad.—Academy.
Am.—American.
A.—Association.
Conf.—Conference.
Cong.—Congress.
Internat.—International.
M.—Medical, Medicine.
Pharm.—Pharmaceutical.
S.—Society.
Surg.—Surgical, Surgery, Surgeons.

Am. Acad. of M., 339, 429
Am. A. for Cancer Research, 158, 251
Am. A. of Genitourinary Surg., 159
Am. A. of Obstetricians and Gynecologists, 1174, 1354, 1456
Am. Electrotherapeutic A., 1890
Am. Gynecological S., 69
Am. Hosp. A., 1445
Am. Neurological A., 68, 163
Am. Orthopedic A., 342, 430, 525
Am. Pediatric S., 65, 155, 246
Am. Pharm. A. N. W. Branch, 1631
Am. Public Health A., 938
Ark. M. S., 248
Boston M. Library Meeting, 2183
Colo. M. S., 1176, 1271
Conn. M. S., 337
Hennepin Co. (Minn.) M. S., 1631
Idaho M. A., 1535, 1634, 1809
Internat. Antiquackery Conf., 1611
Internat. A. of M. Museums, 1345
Internat. Cong. for Repression of Adulteration of Alimentary and Pharmaceutical Products, 509
Internat. Cong. of Ophthalmology, 1166
Internat. Conf. on Tuberculosis, 684, 1021, 1175, 1268, 1343, 1357
Internat. Cong. of Urology, 1522
Internat. Cong. on Thalassotherapy, 1614
Internat. Cong. on Care of Insane, 1709
Internat. Cong. for M. Electrology and Radiology, 2069
Internat. Cong. on Tuberculosis, 234, 513, 684, 769, 927, 1019, 1021, 1084, 1090, 1173, 1252, 1340, 1359, 1369, 1446, 1537, 1602, 1625, 1725, 1811, 1895
Internat. Esperanto M. A., 1791
Internat. First-Aid and Life-Saving Cong., 418
Internat. M. A. of Mexico, 1529
Internat. M. Cong., 138, 616, 774
Ky. M. A., 1353, 1453, 1544
Mass. M. S., 431
M. Library A., 435
Mich. M. S., 698, 784
Mich. M. S. Co. Secretaries A., 2175
Miss. Valley M. A., 1535, 1633, 1724, 1805
Neb. M. A., 66
N. H. M. S., 161, 244, 344
N. J. M. S., 620, 699
N. Y. Acad. of M., 1995
N. Y. Neurological S. 1893
N. D. M. A., 340
Nevada M. A., 2166
New England Pediatric S., 2168
Pa. M. S., 1178, 1270, 1356, 1455, 1541, 1629
Philadelphia Co. M. S., 71, 1543, 2182
R. I. M. S., 341
Southern M. A., 1805, 1891, 1993, 2079
Southwest M. A., 1536, 1632, 1726,
Va. M. S., 1624, 1722, 1807
Wis. M. S., 523, 703

T

Tabes-dorsalis, 440—ab
  and general paralysis, pathology and treatment of, 2093—ab
  and paralysis in light of recent research on syphilis, 1558—ab
  and surgery, 796—ab
  and syphilis, 634—ab
  arterial pressure in, and its modification by gastric crises and lightning pains, 1738—ab
  Denslow cure for, 1339—E
  diagnosis of, 777—ab
  eye crises in, 1474—ab
  improvement of peripheral centripetal neuron in, by Frenkel's exercise-therapy, 955—ab
  lancinating pains in head in, 1913—ab
  laryngeal crises and paresis of abductors of vocal cords as important early symptom of, 815—O
  mercury in, 1290—ab
  muscular *re-education in*, 239
  pathogenesis of, 866—ab, 1378—ab
  treatment of, 1915—O
Tabes mesenterica, 1364—ab
Table utensils, possibilities of tuberculous infection from, at sanatoria, 1254—ab
Tablet, abuse *of*, 2228
  compounding, limitations of, 330—O
Tachycardia, paroxysmal, 1914—ab
Taint in miscured hams, nature and causes of, 353—ab
Tapeworm, treatment of, 872—ab
Taste and smell, cerebral centers for, and uncinate group of fits, 879—O
Teachers, compulsory study of hygiene by, 1358—ab
Teeth, anatomic and pathologic conditions of maxillary antrum in relation to, 2097—ab
  changes in, trigeminal neuralgia from, 266—ab
  of school children, 1601—E
  permanent, rachitic erosions of, with lamellar cataract, 1130—O
Telephone and motor car vs. ataxis traction forceps, 1555—ab
Temperature, body, in healthy *and* sick infants, daily variations in, 1116—ab
  coefficient of velocity of nerve conduction, (73) 350—ab
  differences in, in *axillæ* in acute appendicitis, 1193—ab
  influence of, on calf vaccine, 2182—ab
  unilateral higher, occurrence and significance of, in lung affections, 1650—ab
Tenaculum, uterine, 1695—O
Tendons, suture of, 876—ab
Tennessee democratic convention adopts public health planks, 425
  medical news, 49, 232, 853, 1344, 1435, 2068, 2168
  state board May *report*, 781
Tenotomy of psoas magnus, psoas parvus and iliacus in spastic spinal paralysis, 1826—ab
Tents and drains, intrauterine, 716—ab
  dispensing with, 1828—ab
Teratomas, solid, of ovary, 1744—ab
Test: See also Tests.
  improved, for quantitative estimation of albumin in urine, 333—ab
  meal, importance and significance of chemical examination of gastric contents after, 710—ab
  meal removal and gastric lavage, device for facilitating, 673—O
  neutral-red soup, of stomach functioning, 1381—ab
  phloridzin, of kidney functioning, *177—ab*
  precipitin, for human blood, 779
  Rivalta's, differentiation of exudates *from transudates by*, 956—ab
  simple typhoid agglutination, 1374-ab
  Wassermann: See Serodiagnosis of Syphilis.
Testicle, cancer of, condition of *glands in*, 873—ab
  tuberculosis of, 1539—ab, 1844—ab
  tuberculosis of, diagnosis and indi*cations for operation*, 867—ab
  tumors of, 253—ab, 410—E
  undescended or maldescended, treatment of, with inguinal hernia, 1372—ab
  undescended, *surgical treatment of*, 952—ab, 1372—ab
Testicles, indication of special secretion in, before puberty, 2085—ab
  translocation of, 1377—ab
Testimonial, alleged, damages for use of, 1086—E
Testimony by patient not waiver of privilege, 1030
  expert, in injury cases, drawing line as to what may be basis of, 1548—ab
  medical expert, 620—ab
Tests, Barany's, application of, to deaf mutes, 2007—ab
  hemolytic, for *malignancy in human beings, 158—ab*
  hemolytic, for malignancy in human beings, 158—ab
  kidney, functional, 87—ab, 1741—ab, *1827—ab, 1885*
  scientific, of pharmacologic preparations, are physicians justified in taking pay from manufacturing chemists for? *2011—ab*
Tetanus and Fourth-of-July injuries, 841—O
  antitoxin treatment of, serum sickness from, 97—ab
  magnesium sulphate in, 530—ab
  prevention and treatment of, 699—ab, 1553—ab
Tetanus prophylaxis, preventive injec*tions of antitoxic serum in*, 173-ab
  toxin, attraction of, to lipoid substances, 355—ab
  toxin, neutralizing action of cholesterin on, 147—ab
  treatment *of*, 1651—ab
  treatment of, on basis of experi*mental and clinical* studies, especially attraction of tetanus toxin to lipoid substances, 355—ab
Tetany, familial, 1474—ab
  in infant four days old, 755—O
  pregnancy, experimental and clinical study of, 877—ab
  with autopsy findings, 1912—ab
Texas examining boards, 1350
  medical news, 49, 233, 835, 1435, 2225
  state board June *report*, 1718
  progress of medicine in, 259—ab
Thalassotherapy, congress on, 686, *1614*
Therapeutic observations, 1490—O
  principle, protection as, 1891—ab
  renaissance, 1727—ab
Therapeutics, 534—ab
  and diagnosis, lumbar puncture in, 1566—O
  drug-store, 421—O
  Dujardin-Beaumetz on problems of, a quarter century ago and to-day, 421—ab
  of self-repair, 708—ab
  physical, 1902—ab
  suggestive, 1546—ab
Therapy: See Treatment
Thigh, fractures of, improved Hodgen splint for, 167—ab
Thimble and dissector for surgeons, 40—O
Thomsen's-disease, study of, by suf*ferer from it, 2091—ab*
Thoracostomy in heart disease, 442-ab
Thorax and abdomen, access to wounds involving, 1285—ab
  and abdomen, inflammatory conditions of, differentiated from appendicitis, 441—ab
  and abdomen, interrelations of diseases of, 444—ab
  and abdomen, penetrating wounds of, 625—ab
  open, apparatus for artificial respiration with, 2198—ab
  new growths in, 870—ab
  paralyzed, cyrtometer tracing showing changes in shape of, 795—ab
  surgery, present status of, 803—O, 805—O, 808—O
  tumors of, with abdominal symptoms, 2080—ab
  wall of, total mobilization of, and release of lung, in unilateral pulmonary tuberculosis, 1909—ab
  x-ray inspection of, in dyspnea patients, 874—ab
Thoroughness, 409—ab
Throat, acute inflammations of, 1783
  *acute inflammations of, local treat*ment of, from standpoint of pathology, 165—ab
  and eye affections, and affections of nose and accessory cavities, 1471-ab
  and nose, chronic infections of, systemic effects of, 1806—ab
Thrombo-angiitis obliterans, 1902—ab
Thrombophlebitis and puerperal peritonitis, operative treatment of, 630—ab
Thrombosis and embolism, warning symptoms of, 1013—ab
  brachial, causing ischemic contracture with secondary ulnar neuritis, 2059—O
  cerebral and ocular *complications* of anemia, 1378—ab
  embolism, postoperative, 355—ab
  of posterior inferior cerebellar artery with autopsy revealing *lesion* in medulla, 163—ab
  of superior longitudinal and lateral sinuses complicated by pregnancy, *997—O*
  portal, etiology of, 450—ab
  prophylaxis of, 1827—ab
Thymus and asthma, 360—ab
  and pexohthalmic *goiter*, 356—ab, 2220—E
  death, *mechanical*, 2194—ab
  investigation into function of, 952-ab
  involution of, 1744—ab
  persisting, importance of, in exophthalmic goiter, 1289—ab
  treatment of disturbances in growth of children, 459—ab
Thyroid and iodin, 73—ab
  and parathyroids, 25—O
  extract in epilepsy and migraine, 625—ab
  feeding and complete thyroidectomy, influence of, on phases of intermediary metabolism, 1731—ab

Thyroid preparations commercial, and standardization of thyroid, 1385—O
  rheumatism, 713—ab
  substances action of, 1470—ab
  surgery, and psychic factor in exophthalmic goiter, 1375—ab
  transplantation of, 1286—ab
Thyroidectomy complete, and thyroid feeding, influence of on phases of intermediary metabolism, 1731—ab
  effects of on mammalian pituitary body, 2084—ab
  partial, in exophthalmic goiter, 1110—ab
Thyroidism and exophthalmic goiter, blood findings in, 1558—ab
Thyroiditis acute non suppurative, 1826—ab 1381—ab
Tibia and fibula, compound comminuted fracture of, treatment of, 2057—O
  compound comminuted fractures of, 1542—ab
  lower epiphysis of, fracture of, 431—ab
Tick Fever See Sleeping Sickne
Timbers death after fall against and what constitutes infection, 705—ab
Tinnitus, painful division of auditory nerve for, 1645—ab
Tissue, embryonic, resistance of, to freezing 1701—F
Tobacco and eyes, 76—ab
  and heart, 76—ab
  question, aspects of, 349—ab
Toe hammer, treatment of 1838—ab
Toldt, Professor, resignation of, 51
Tongue and mouth, cancer of, 1730—ab
  black hairy, 2092—ab
Tonsil and adenoid operation, status lymphaticus, and anesthesia in, 1185—ab
  and pleura, lymphatic connection between, 1160—E
  applied anatomy of, 1277—ab
  chronically inflamed tissue, importance of diagnosis and treatment, 86—ab
  forceps, 1696—O
  from evolutionary point of view, 706—ab
  tuberculous faucial, 2005—ab
Tonsillitis, scarlet fever, and diphtheria, pyocyanase in, 1288—ab
Tonsillectomy, painless and adenectomy with quinin anesthesia, 496—O
Tonsils and adenoids diseased, pathology and treatment of, 352—ab
  removal of, under local anesthesia, 1185—ab
Toothache, 275
  remedy, efficacious, 424
Torticollis, treatment of, by lengthening sternomastoid, 1190—ab
Touch, value of, sense of, in operating, 1560—ab
Toxemia acute, after chloroform anesthesia, 785—ab
  from standpoint of perverted metabolism, 1184—ab
  in infant simulating cerebral hemorrhage, 1932—O
  obstetric, septic and anesthetic, 741—O
  of pregnancy, history of literature of 1284—ab
  of pregnancy, functions and relations of syncytium to, and to cancer, 947—ab
Toxemias of pregnancy, 1818—ab
  of pregnancy, diagnosis and treatment 787—ab
  of pregnancy etiology and pathology, 787—ab
Toxin eclampsia attempt to determine, by experiment, 359—ab
Tracheotomy, ultimate results of, 539—ab
Trachoma and public weal, 1357—ab
Traditions of medicine, unreasonable, 707—ab
Transfusion of blood, healing of experimental tumors by, 1228—E
  test to determine adaptability of donor s blood to receiver s in, 947—ab
  venous after expulsion of blood local anesthesia of limb by, 1040—ab
Transillumination of orbit from nasopharynx examination of fundus of eye by, 356—ab
Transplantation of blood vessels and organs, permanent results of, 2144—ab
  of blood vessels organs and limbs, 1652—O
Transudate and exudate differential diagnosis between, by Rivalta test, 718—ab, 956—ab
Trauma, anatomic findings in epilepsy after, 1472—ab
  arrest of hepatic hemorrhage due to, 1731—ab
  intracranial non penetrating, question of operation for, 790—ab
  slight, of joints, clinical and medicolegal significance of, 2211—O
Traumatism as etiologic factor in appendicitis 1110—ab
  of brain 1818—ab
Traumatisms of biliary passages operative treatment of, 1285—ab
  severe, and fractures, 300 consecutive cases of, 257—ab
Treatment case, ophthalmic, pocket emergency 1010—O
  drug vs osteopathic, 2135—O
  medicinal, of disease sufficiency of official drugs and preparations in, 1477—O
  of disease, progress in, 248—ab
  pathology and anatomy of chronic endometritis, 2193—ab
Trephining, palliative, for choked disc, 1473—ab
Treponema pertenuis (Castellani), of yaws and experimental production of disease in monkeys, 950—ab, 1187—ab
Tribunal of honor, Prussian medical, decisions of, 50
Trichiasis, treatment of, 946—ab
Trichinosis and eosinophilia, 78—ab
  from boiled ham, 1802—ab
Trional, 1783
Tropical diseases and Mississippi Valley, 1550—ab
Tropics health in, 712—ab
  mosquito destruction in, 2203—O
  white race in 412—E
Trunk and abdomen, body elevator and support for operations on, 126—O
Trypanosome infections acidity and alkalinity of blood in, 1038—ab
Trypanosomiasis, is it preventable? 1017—E
Trypsin, antitryptic power of blood serum in cancer, 83—ab
Tubercle bacilli See Bacilli
  residue, use of, in surgical tuberculosis, 785—ab
Tuberculin, absorbing power of vagina for, 1742—ab
  and phlyctenular eye affections, 1383—ab
  as adjunct to home treatment of pulmonary tuberculosis, 1031—ab
  cutaneous and ocular reactions, 1192—ab, 1362—ab
  cutaneous reaction, 540—ab, 1192—ab, 1271—ab, 1361—ab, 1362—ab, 1741—ab, 1756—ab
  cutaneous, reaction, during measles, 798—ab
  cutaneous, reaction in infants and children, 540 ab, 1627 ab, 1912 ab
  diagnosis of tuberculosis, bovine necropsy as object lesson on importance of, 2173—C
  diagnostic and therapeutic use of, 530—ab
  diluted, skin inoculation of, in diagnosis of tuberculosis in infancy and childhood by, 1627—ab
  experimental research on reaction to 84—ab
  immunity, 1912—ab
  immunization, treatment and prevention of tuberculosis by, 791—ab 1188—ab
  in diagnosis and treatment of surgical tuberculosis, 2080—ab
  in diagnosis of pulmonary tuberculosis, 349—ab, 1105—ab
  in orthopedics, 343—ab, 1553—ab
  in pulmonary tuberculosis, 874—ab, 1558—ab 1906—ab
  inunction 166—ab
  ocular reaction, 82—ab, 191—ab 264—ab, 350—ab, 438—ab 540—ab, 679—ab 1027, 1174—ab, 1192—ab, 1361—ab 1362—ab 1376—ab, 1676—ab 1736—ab, 1756—O, 1816—ab, 1836—O
  ocular reaction, cytologic findings in 264—ab
  ocular reaction, dangers of, 717—ab, 871—ab, 2011—ab
  ocular reaction in guinea pigs infected with human bovine or avian tubercle bacilli, 1901—ab
  old absence of reaction to, in persons free from tuberculosis, 264—ab
  purposes of, 1360—ab
  reaction and nervous system, 1650—ab
  reaction from tuberculous chicken, 333
  reaction intradermal 2007—ab
  reaction, local, in diagnosis, 1470—ab
Tuberculin reaction, Moro, 239, 1271 ab
  reaction, percutaneous practical value of, 873—ab
  reactions, 1173—ab
  reactions, anatomic characteristics of tuberculous infections and their relation to 1449—ab
  reactions and nervous system, 1604—L
  reactions comparative diagnostic importance of, in children, 1741—ab
  reactions diagnostic utilization of, 1475—ab
  salve in differentiation and treatment of lupus, 174—ab
  specific curative action of, 1360—ab
  temporary improvement in leukemia under, 174—ab
  therapy new points of view in, 874—ab
  treatment, accuracy of tuberculo opsonic index and its value as control to, in pulmonary tuberculosis, 1361—ab
  treatment of tuberculosis 1359—ab
  treatment of dysmenorrhea and amenorrhea, 2012—ab
  urethral reaction to, 1383—ab
  what we are trying to accomplish with, 1360—ab
Tuberculins and measure of their activity, 1448—ab
Tuberculinum purum, in treatment of pulmonary tuberculosis, 1448—ab
Tuberculo opsonic index, 1756—O
  index, accuracy of, and its value as control to tuberculin treatment in pulmonary tuberculosis, 1361—ab
Tuberculosis, 525—ab, 2233—ab
  abdominal, relative frequency of, in Great Britain and United States 1368—ab
  acute meningitis due to, in children diagnostic value of lumbar puncture in, 1627—ab
  acute simulating typhoid, 1113—ab, 1908—ab
  administrative treatment of, 1111—ab
  advanced pulmonary, medical treatment of, 1271—ab
  among foreign born, 1602—E
  among negroes, 1963—ab
  anatomic characteristics of, and their relation to tuberculin reactions, 1449—ab
  and calculus of kidney, with perinephritic abscess 353—ab
  and calculus results of operation on kidney for 353—ab
  and cancer, descendants of persons who have died of, 1382—ab
  and cancer, hemolysis in, 2036—O
  and chronic pleurisy, 1449—ab
  and discharged prisoners, 2216—ab
  and human and bovine tubercle bacilli 2194—ab
  and hypertrophy of lymphoid tissue 1628—ab
  and legal rights, 1357—ab
  and mental defect 1725—ab
  and orthotic albuminuria, 349—ab
  and septic conditions of kidney, diagnosis and prognosis of, 791—ab
  and social life, 1176—ab
  arthritis of hip joint due to, 1537—ab
  apical, chrondrotomy for 1911—ab
  apical, laws regulating development of secondary affections with, 1825—ab
  at high altitude, blood pressure in, 944—ab
  attitude of physician to patient in, 78—ab
  Bacillus of See Bacillus
  bill, 855—ab
  bismuth paste in sinuses due to, 860
  books on, 691
  bovine, campaign against, 1794
  bovine, transmission of, to man 423
  campaign against, 379
  campaign against, in Germany, 1879
  causes of decline of mortality from, in Berlin, 712—ab
  committee, grant for, 433—ab
  comparative importance of treatment of, in sanatoria near at hand and entire change of climate 1173—ab, 1254—ab
  comparative pathology of, 2009—ab
  conference and exhibition, national, 685
  coordination of preventive measures, 1635—ab, 1735—ab
  cost of city s ransom 1599—ab
  cost of, in United States and its reduction, 1725—ab
  cures, alleged, 2229
  cutaneous, x ray in, 261—ab
Tuberculosis, dangers of excessive sunlight in, 1106—ab
  diagnosis and prognosis of, specific aids in, 1898—ab
  diet in, 1255—ab
  dispensaries, 1269—ab
  distribution of lesions of, in infants and young children, 1368—ab
  duration of actively *infectious* stage of, 1173—ab
  early cases of, diagnosis and treatment of, 1255—ab
  early diagnosis of, 525—ab, 1361—ab
  early pulmonary, value of hemoptysis as symptom of, 1255—ab
  education in schools, 1358—ab
  effusions due to, diagnostic value of cytologic examination of, in various serous cavities 1896—ab
  enlargement of heart and liver, early symptoms of, 1253—ab
  essay on *Norwegian Danish* translation of, 1960—ab
  etiology of, hereditary disposition as factor in, 1448—ab
  everyday fight on, 351—ab
  evolution and treatment of, in syphilitics, 1822—ab
  exhibition in Montreal 1983
  experience in sanatorium work, 1896—ab
  eye and skin reaction to tuberculin in, 1192—ab, 1362—ab
  eye reaction to tuberculin in, 82—ab, 191—ab, 264—ab, 350—ab, 438—ab, 540—ab, 629—ab, 1027, 1174—ab, 1192—ab, 1361—ab 1362—ab, 1376—ab, 1626—ab, 1736—ab, 1756—O 1816—ab, 1836—O
  eye reaction to tuberculin in, danger of, 2011—ab
  eye reaction to tuberculin in guinea-pigs, 1901—ab
  family, 1729—ab
  fighting of, by caring for infants, 1246
  frequency of, in childhood, 1626—ab
  fund of Koch, 1094
  general prophylactic measures, 1269—ab
  genital, 968—O
  graduated work in treatment of, 686
  glands, in mesentery, surgical treatment of, 1467—ab
  hereditary, intermittent albuminuria of childhood and, 1368—ab
  heredity in, 1253—ab
  home treatment of, 1277—ab
  human and animal, relation between, with reference to transformation of human and other types of tubercle bacillus, 2088—ab
  human and bovine, 1110—ab, 1186—ab, 1256—ab, 1258—ab 1644—ab
  human and bovine, application of opsonic methods in comparing, 1189—ab
  human and bovine conference in camera on, 1239—E, 1262—ab
  human and bovine, parallels of, 1546—ab, 1733—ab
  hygiene in 249—ab
  hygienic requirements for sanatoria, 1269—ab
  ileocecal, causing tumor and stenosis, pathology and therapy of, 2095—ab
  immunity, 1446—ab, 1447—ab
  immunity and intestinal infection, 1729—ab
  in childhood, hygienic and climatic prophylaxis of, 1627—ab
  in children, pathology of, 76—ab
  in children, primary localization of, 1386—ab
  in children, relation of infectious diseases to, 1366—ab
  in Connecticut, 622—ab
  in hospitals for insane, 1897—ab
  in infancy and childhood, aid to *diagnosis of,* by skin inoculation of diluted tuberculin, 1627—ab
  in infants 1365—ab
  in Ireland, crusade against, 50
  in limeworkers 2093—ab
  in Scotland, campaign against, 635
  in Sweden, campaign against, 1084—E
  incipient, new methods for diagnosing, 1647—ab
  incipient apical chondrotomy of first rib in 449—ab
  incipient pulmonary, importance of certain functional and physical symptoms in, 1195—ab
  incipient pulmonary, morbid local tenderness a sign of, 1537—ab
  incipient pulmonary, x ray detection of, 715—ab
  infantile, human contagion as factor in, 1367—ab
  inflammatory, and tuberculous rheumatism, 1897—ab

Tuberculosis, influence of overwork and nervous strain in, 1899—ab
infrequency of hemoptysis in children with, 915—ab
inspection, New York bovine, 144—C
internal surgical, Marmorek's serum, 1474—ab
International Conference on, in Philadelphia, 684
International Congress on, 413—E, 513—ab, 684, 762—E, 769, 1090, 1415—E
International Congress on, membership in, 1019
International Congress on, President Roosevelt's address at, 1261—ab
International Institute, 2071
is opsonic treatment useful in? 629—ab
isolation of patients, 1269—ab
joint, influence of weight bearing on, treatment of, 342—ab
joint, treatment of, 709—ab
joint, Marmorek's serum in, 342—ab, 1553—ab
joint, vaccine therapy in, 1625—ab
joint, x-ray diagnosis of, 1542—ab
laryngeal, 866—ab
laryngeal and pulmonary, adjuvants to nutrition and fresh-air in, 1465—ab
laryngitis due to, prognosis and treatment of, 1818—ab
latent endothoracal glandular, diagnosis and specific treatment of, in children, 1473—ab
lesions, part of enzymes in, 1448—ab
liver in, 1449—ab
local pigmentation in, 399—ab
local sweating in, 225
marital infection in, 848—E, 1095—C
meningitis caused by, surgical possibilities in, 1363—ab
meningitis due to, clinical manifestations of, 1367—ab
meningitis due to, lumbar puncture, *its technic and value of* cytodiagnosis in differentiating, from epidemic variety, 1819—ab
mercury in, 75—ab, 166—ab, 944—ab, 1108—ab, 1349—, 1851—O, 2187—ab
miliary, in child aged four and a half months, report of autopsy, 1367—ab
mixed infection in, 2047—O
modes of infection in, 72—ab
mortality from, in Austria, 236
mortality from, in Great Britain, 1345
movement in various countries, progress of, 1358—ab
municipal sanatorium for, 1523
new methods of early diagnosis of, 1358—ab
night camp for, 680—E
obstructive abnormalities of oranasopharyngeal spaces in children, powerful predisposing factor to, 1367—ab
of bladder, 1538—ab, 1728—ab, 1901—ab, 2003—ab
of bones and joints, how Minnesota cares for its indigent children with, 1541—ab
of bone, 250—ab, 948—ab
of bone, blastomycosis resembling, 344—ab, 1553—ab
of bone, complicated surgical, in adults, fresh air with hyperemia in, 1540—ab
of bones, histogenesis of, 1449—ab
of bones, joints and glands in children, seashore and fresh-air treatment of, 1628—ab
of breast, 1363—ab
of bronchial glands and apices, x-ray diagnosis in, 1192—ab
of cervical glands, softened, possibility of avoiding scar formation in, 1628—ab
of cervical lymph nodes, 1364—ab
of children, recent diagnostic methods in, 157—ab
of cornea, 1255—ab
of ear, 1256—ab, 1278—ab
of female genitalia, 867—ab, 1539—ab
of gastrointestinal tract, 867—ab
of hip, treated by weight-bearing and fixation by Lorenz short hip spica, 1625—ab
of kidney, 875—ab, 1194—ab, 1541—ab
of kidney, experimental, with ligated ureter, 359—ab
of larynx: type which is capable of recovery and principles of treatment, 1256—ab
of lymphatic glands in children, 1366—ab
Tuberculosis of nose, mouth and pharynx, 1364—ab
of pericardium in children, 1368—ab
of peritoneum, 1539—ab
of retroperitoneal *glands and their* relations to spinal symptoms, 1364—ab
of seminal vesicles, 948—ab
of suprarenals, and congenital syphilis, 176—ab
of testicle, 1844—ab
of testicle, diagnosis and indications for operation, 867—ab
of uterus and tubes with myoma, 1826—ab
of vas deferens, epididymis and testicle, 1539—ab
opportunities for infection, 1254—ab
opsonic index, and, 1361—ab, 1756—O
or tuberculous peritonitis and intestinal obstruction, 1629—ab
overcoming predisposition to, and danger from infection during childhood, 1627—ab, 2185—ab
oxygen in peritonitis due to, 865—ab
pathology and clinic of, in light of recent conquests, 718—ab
patients, psychologic tests made on, 1371—ab
percutaneous infection, 1254—ab
peritonitis due to, and treatment with iodized gelatin, 1743—ab
peritonitis due to, medical treatment of, 1562—ab
peritonitis due to, pathology of, 1450—ab
peritonitis due to, statistics of, from Johns Hopkins Hospital, 1464—ab
persons free from, absence of reaction to old tuberculin in, 264—ab
physiologic effects of residence in high altitudes on, 1255—ab
placental transmission of, 1367—ab
possibilities of infection from table utensils at sanatoria, 1254—ab
prephysical signs of, in children, 1752—O
present crusade against in New York City, 1639—ab
prevention of infection of healthy persons, 1269—ab
prevention of, relative functions of available agencies, 1899—ab
primary, in hernia, 1380—ab
primary intestinal, in adults, 1560—ab
primary, of mesenteric glands, 866—ab, 1114—ab
primary, of upper respiratory and alimentary tracts, 1280—ab
problem, and National Department of Public Health, 1462—ab, 1812—ab
problem in Philippines, elimination of intestinal parasites first step in solution of, 2233—ab
propaganda, Christmas stamps for, 1720—ab
protection against, 1358—ab
protection of cattle against, 359—ab
provision for advanced cases of, 1268—ab
psychic phases of, literary description of, 1882—C
pulmonary, 67—ab
pulmonary, accuracy of tuberculo-opsonic index and its value as control to tuberculin treatment in, 1361—ab
pulmonary, among printers, 1726-ab
pulmonary and of pleura, surgical aspects of, 1365—ab
pulmonary, and universal asthenia, 1253—ab
pulmonary, antiseptic vapors in, 1646—ab
pulmonary, Arneth's classification of neutrophile leucocytes and its application in, 2006—ab
pulmonary, artificially induced pneumothorax in, 2095—ab, 2098—ab
pulmonary, coagulability of blood in, 1898—ab
pulmonary, comparative value of change of climate and of treatment in sanatoria near at hand in, 2088—ab
pulmonary, corn oil in, 39—O
pulmonary, diagnosis of, 176—ab
pulmonary, early diagnosis of, 1183—ab
pulmonary, etiology of, 410—E, 535—ab, 536—ab, 626—ab
pulmonary, expectant treatment of, 1729—ab
pulmonary, graduated labor in, 1896—ab
pulmonary, in children, 1112—ab
pulmonary, *in children of* tuberculous parents, 1260—ab
Tuberculosis, pulmonary, influence of *artificially induced pneumothorax* on, 1558—ab
pulmonary, influence of pleuritic *effusions on course of, 1910—ab*
pulmonary, kidneys in, 1450—ab
pulmonary, new viewpoints in treatment of, 1557—ab
pulmonary, opsonic index in, 626—ab, 1361—ab
pulmonary, pneumococcus in blood in, 1823—ab
pulmonary, pneumonic process in, 1449—ab
pulmonary, predisposition of apices of lungs to, 1252—ab
pulmonary, prognosis of, in children under fifteen, 1628—ab
pulmonary, pneumothorax, without exudate in, 1898—ab
Red Cross in war against, 2088—ab
pulmonary, relative and absolute signs of, 1187—ab
pulmonary, rest of lung in, 1895—ab
pulmonary, specific therapy of, 1359—ab
pulmonary, recognition of pure, symptomatic treatment of, 2098—ab
pulmonary, treatment of, in Illinois, 441—ab
pulmonary, tuberculin as adjunct to home treatment of, 1031—ab
pulmonary, tuberculin in, 847—ab, 1382—ab, 1906—ab
pulmonary, tuberculin in diagnosis of, 349—ab, 1105—ab
pulmonary, tuberculinum purum in, 1448—ab
pulmonary, x-ray diagnosis of, 949—ab, 1254—ab, 1283—ab, 1897—ab
relation of, to crime and incarcerated criminal, 1726—ab
renal, complete nephro-ureterectomy for, in women, 459—O
report on serologic studies in, by Reitter and Stoerk, 1449—ab
requirements for prophylaxis and treatment of, in sanatoria, 1269 1269—ab
rest and exercise in, 1813—ab, 2233—ab
results of sanitarium treatment, 1813—ab
routes of infection in, 1252—ab
rural, 525—ab
sanatoria, cost and maintenance of, with regard to institutions operated by life insurance associations, 1896—ab
sanatoria for women, 1269—ab
sanatorium, New Hampshire state, 162—ab
sanitarium, check interposed to use of property for, 165
sclerous atrophic nephritis due to, 1286—ab
sea water in, 2075—C
septicemic, 873—ab
serodiagnosis of, 1362—ab, 1756—O
serum treatment of, and endobacillary albuminoids, 1740—ab
skin reaction to tuberculin in, 540—ab, 1192—ab, 1271—ab, 1361—ab, 1362—ab, 1741—ab, 1756—ab
skin reaction to tuberculin in infants and children, 1627—ab, 1912—ab
softened, of cervical glands, possibility of avoiding scar formation in, 2000—ab
study of, contribution to, from orthopedic surgery, 1628—ab
study of, landmarks in, 172—ab
surgical, 1540—ab
surgical, Marmorek's serum in, 1913—ab
surgical, outdoor treatment of, 1363—ab
surgical, tuberculin in, 2080—ab
surgical, tubercle residue in, 785—ab
transcutaneous inoculation of, 1253—ab
transmission of, 76—ab, 1899—ab
transmission *and progress of, in* children, through family association, 1366—ab
treatment of, 1890—ab
treatment of, according to Brehmer's principles, 447—ab
treatment of sinuses, fistulous tracts and abscesses due to, 709—ab
treatment of, with tuberculosis immune blood, 1470—ab
tuberculin diagnosis of, bovine necropsy as object lesson on importance of, 2173—C
tuberculin treatment of, 791—ab, 1188—ab, 1359—ab
Tuberculosis, tuberculo-toxoidin and *immunization* serum in, 1446—ab
unilateral pulmonary, operative mobilization of chest wall and lung in treatment of, 1116—ab, 1909—ab
urinary, diagnosis of, in children, 1821—ab
vaccination of cattle against, 1738—ab
value of ocular tuberculin test in surgical treatment of orbital disease, 1174—ab
visceral, 1449—ab
vital points in, 1464—ab
with and without tubercle bacilli in sputum, 1828—ab
Tuberculo-toxoidin and immunization serum, 1446—ab
Tuberculous: See Consumptive
disease *of hip, 900 cases of,* 261—ab
infection, alleged, by brushes, 685
sinuses and abscesses, prevention, diagnosis and surgical treatment of, 1540—ab
sinuses, treatment of, 76—ab, 342—ab
Tuberculozyne, 1093, 1095
Tumor and stenosis, ileocecal tuberculosis causing, pathology and therapy, 2095—ab
brain, 342—ab, 1375—ab
brain localized and removed; symptomatology of lesions in parietal lobe, 1108—ab, 1109—ab
cells, embryonic tissue and organisms, resistance of, to freezing, 1701—E
cerebellar, three cases of, 1057—O
giant scalp, 1913—ab
inoculable, inheritance of susceptibility to, 253—ab
symptomatology of, in cerebellum and cerebellopontine angle, 1825—ab
Tumors, brain, diagnosis of, 86—ab
brain, in children, 82—ab
brain, ocular symptoms of, 1036—ab
cerebellar, diagnosis, surgical treatment and symptomatology of, 1649—ab
cerebellar, pathology of, 953—ab
congenital malignant, 1286—ab
experimental, healing of, by transfusion of blood, 228—E
from inflammation, 1646—ab
in bladder in children, 1912—ab
malignant, influencing of, by atoxyl and foreign albumin, 797—ab
malignant, removal of, novel method of operation in, 2092—ab
mouse, influence of scarlet oil on, 2197—ab
new intrathoracic, 870—ab
of adrenal origin—hypernephroma of kidney, 1460—ab
of bladder, operative treatment of, 160—ab
of bladder, transperitoneal removal of, 791—ab
of breast in childhood, 2090—ab
of breast, recent improvements in operations for, 1543—ab
of heart, casiustic study of, and fibroelastomyxoma of heart, especially myxomas, 1913—ab
of mediastinum, clinical aspects of, 897—O
of testicle, 410—E
of testicle, simple and mixed, relation of, 253—ab
of thorax with abdominal symptoms, 2080—ab
ovarian, complicating pregnancy and puerperium, 169—ab
ovarian, dubious and anatomically malignant, for, primary and ultimate results of ovariotomies 716—ab
primary, in heart, 1744—ab
proteids of, study of, 251—ab
puncture of corpus callosum in hydrocephalus, epilepsy and with, 1012—ab
results of application of special *histologic methods to study of,* 1184—ab
spinal-cord, prognosis *of,* with operation, 164—ab
vesical, 2186—ab
Tunis and Algeria, plague in, in 1907, 1469—ab
Turbinal removal, most rapid, effective and least bloody method of, 1730—ab
Turgosphygmography and finger plethysmography, 2096—ab
Turpitude, distinguished, 1880
Twins, undeveloped, birth of, complicated by heart disease, 316—O

Tympanum, chronic suppuration above, conservative treatment of, 799—ab
Types, early clinical, of certain diseases, 1555—ab
Typhlitis 1459—ab
Typho bacillose, 1359—ab, 2093—ab
Typhoid, 194—O, 1233
  abdominal surgical complications of, 2182—ab
  agglutination test, simple, 1374—ab
  army immunization against, 2063—E
  aspirin in, 1891—ab
  bacilli carrier, extraordinary, 437—ab
  bacilli carriers, 981—O, 1516—E
  bacilli carriers in India, 1436
  bacilli disseminators, fowls as, 1526
  bacillus in blood in absence of typhoid fever, 86—ab
  bacilli, scanty, detection of, 799—ab
  bacillus, viability of, in body, 2183—ab
  bacteriologic diagnosis of, 978—O
  blood cultures in, 866—ab
  cholecystitis and treatment, 263—ab
  complicated by double suppurative parotitis in child, 2216—O
  complicated with gangrene of extremities, 87—ab
  complications, 352—ab
  complications, prophylaxis, prognosis and treatment of, 352—ab
  complications, treatment of, 339—ab
  dietetic and injection method of treating, 792—ab
  differentiation of outbreaks of, due to infection by water, milk, flies and contacts, 2088—ab
  ear and larynx complications of, 1455—ab
  endemic, from bacilli carrier, 1825—ab
  epidemics of, responsibilities of municipalities in Ohio valley for, 1496—O
  epidemiology of, 940—ab
  from mussels, 1022 1345
  in child, aphasia complicating, 1185—ab
  in Ireland, 776—ab
  in Manitoba 940—ab
  in Richmond, Va, with conclusions relating to typhoid in the South, 940—ab
  infection, transplacental, secondary nephritis with, 1817—ab
  inoculation against, in British army, 623—ab
  localized in kidneys, 2100—ab
  metabolism in, 947—O
  milk free fluid diet and rectal irrigations in, 73—ab
  Mississippi's next senator on 1529
  nourishment of patients during, 1732—ab
  outbreak of, milk borne, unusually extensive, 255—ab
  perforation, 333
  perforation, diagnosis of, 1891—ab
  perforation, treatment of, 1458—ab
  prevention of, 835—ab
  silver nitrate in 1281—ab
  spine, 406—O, 528—ab
  toxin reaction, ocular, 540—ab
  treatment of, 983—O, 1550—ab
  type acute tuberculosis of, 1908—ab
  vaccination against, improved technic for, 717—ab
Typhus at Gottingen, 1739—ab
  in Indo China, 533—ab
  in Russia, 612

U

Uganda syphilis in, 1430—E, 1436
Ulcer, Duodenal See Duodenal ulcer
  Gastric and of Stomach See Gastric ulcer
  peptic, diagnosis of, 1549—ab
  rodent, clinical and pathological aspect of, 167—ab
Ulceration, non specific of bones of nose and face, 1465—ab
Ulcerations, infectious, of fingers 446—ab
Underweight and overweight, influence of, on vitality, 1032—ab, 1187—ab
United States cost of tuberculosis in, its reduction, 1725—ab
  pharmacopeia and National Formulary, need of more intimate knowledge of, among physicians, 2018—O
  Public Health and Marine-Hospital Service, 942—ab
  Public Health and Marine-Hospital Service personnel bill, 924—E
University control and hospitals, 1274—ab
Uranalysis by quacks, 238
Urea, clinical examination of urine with reference to, 2092—ab
  hydrochlorid and quinin, hypodermic use of, in diagnosis and treatment of acute and chronic malaria, 1550—ab
Uremia, chronic nephritis with, subtemporal decompression in, 1902—ab
Ureter and kidney calculi, x ray in diagnosis of, 169—ab
  and kidney, surgery of, 2090—ab
  catheterization of, diagnosis and treatment, 1642—ab
  fistula in atrophy of kidney with, 1739—ab
  irritation of, appendicitis and right kidney, coexistence of symptoms of, 1727—ab
  ligated, experimental tuberculosis of kidney with, 359—ab
  obstruction to, 793—ab
  upper segment of, and kidney pelvis, plastic operations on, for hydronephrosis, 356—ab
Ureteral, calculi, 167—ab
  calculus, surgery of, 512—C
Ureterostomy, bilateral, value of in advanced cancer of bladder or prostate, 443—ab
Uretero vesical implantation, new method of anastomosis, 1321—O
Ureters and kidneys analysis of 140 operations on, 167—ab
  behavior of, after more comprehensive abdominal operation for carcinoma of uterus, 877—ab
  cystoscopy and catheterization of, in children, 1912—ab
  retention catheterization of, in bladder affections and prostatic hypertrophy, 87—ab
Urethra, air distended, method of operating in, 1467—ab
  and bladder, common errors in treatment of, 160
  dilatation of, method of estimating progress of, 172—ab
  impassable stricture of, plea for prompt use of retrograde catheterization in surgical treatment of, 167—ab, 258—ab
  injury of, and fractures of pelvis, 1542—ab
  length of, 1183—ab
  membranous, stricture of, 159—ab
  prolapse of mucosa of, in women, 1781—ab
  prostatic, perineal section for obstruction of, 866—ab
  traumatic rupture of, treatment of, 1865—O
  tuberculin reaction in, 1383—ab
Urethral and vesical sphincters, suture of, for incontinence of urine, 161—ab
Urethritis, beginning gonorrheal, quick method of curing, 2081—ab
Urethrorectal fistulas, 160—ab
Urethroscope, posterior, disturbances due to disease of verumontanum and its treatment with, 160—ab
Uric acid, endogenous, origin of, 795—ab
  metabolism during subcutaneous oxygen treatment of neuritis and neuralgia, 1044—ab
  production of, 1044—ab
Urinary findings in infants suffering from intestinal infection, 248—ab
Urine, albumin in, quantitative estimation of, 333—ab, 2055—O
  alleged manifestations of, in diseases of pancreas, 837—O
  ammonia coefficient in, 777—ab
  anasarca from retention of, 1743—ab
  and serum of syphilitics, presence of complement binding substances in, 1142—O
  and stools, toxicity of, and intestinal putrefaction in infants fed on foods rich in albumin, 360—ab
  blood in, hydrogen dioxid test for, 988—ab
  clinical examination of, and estimation of urea, 2092—ab
  detection of tubercle bacilli in, 541—ab
  determination of sugar in, 771—C
  determination of tubercle bacilli in 1044—ab
  diagnostic importance of composition of, in pneumonia, 877—ab
  ethereal sulphates in, in gastrointestinal autointoxication, 1822—ab
  examination of, improved technic for, 449—ab
Urine, Folin method for estimating quantity of ammonia in, 692, 860
  incontinence of, suture of urethral and vesical sphincters for, 161—ab
  infections of, in obstetrics, 1641—ab
  instrument for estimation of albumin in, 1511—O
  presence of mydriatic substance in, 1702—E
  proteid in, 691
  short circuiting of, in advanced cancer of bladder of prostate, 443—ab
  traumatic diffusion of, in kidney region, 173—ab
Urinary discharge, efficiency of, 172—ab
Uriseptin, 773—O
Urology, suction hyperemia in, 85—ab
Uruguay, cancer in, propaganda against, 203—ab
Utah medical news, 233, 853
  state board April and July reports, 1719
  state board October report, 1801
Uterine adnexa See also Fallopian Tubes and Ovaries
  conservatism in surgery of, 786—ab, 1465—ab
Uterine tenaculum, 1695—O
Uterus, abscess of, hysterectomy, recovery, 127—O
  amputation of, vertical and horizontal, 71—ab
  and bladder, traumatic rupture of, during labor at full term, 1406—O
  and Fallopian tubes tuberculous process in, with myoma, 1826—ab
  and stomach, 1005—O
  and vagina, capacity for absorption of mucous membrane of, 2193—ab
  arteriosclerosis of, 1174—ab
  cancer of, diagnosis of and of late syphilis of uterus, 268—ab
  cancer of, early diagnosis of, 419
  cancer of, immediate and remote results of hysterectomy for, 2008—ab
  cancer of, long freedom from recurrence after incomplete operation for, 1914—ab
  cancer of, not a disease peculiar to women, 2185—ab
  carcinoma of, behavior of ureters after comprehensive abdominal operations for, 877—ab
  carcinoma of, early diagnosis of, 786—ab
  carcinoma of, and fibroids, 1460—ab
  convoluted, 87—ab, 799—ab
  defective development of, 1556—ab
  displacement of, correction of, with sound, 716—ab
  displacements of, non surgical treatment of, 903—O
  displacements of, treatment of, 1377—ab
  double, childbirth with, 87—ab
  endoscopy of, 1469—ab
  fibroid of, general pathologic conditions with, 338—ab, 2188—ab
  fibroid, symptomless of, and conservative surgeon, 972—O
  fibroids of, operative and nonoperative, 1815—ab
  fibromyomata of, and anemia, 1395—O
  fixation of, between external and internal os, 81—ab
  gravid, backward displacement of, diagnosis and treatment, 1189—ab
  gravid, traumatic rupture of, near term, 1646—ab
  hemorrhage from, significance of, 1377—ab, 1903—ab
  inguinal hernia of, 2008—ab
  hemorrhage, postclimacteric of, due to relative hypothyroidism, 2157—O
  injections into, dangers and usefulness of, 1647—ab
  involution of, in lying in women, 263—ab
  late syphilis of, and uterine cancer, diagnosis of, 268—ab
  metastasis of carcinoma of, in central nervous system and organs of sense 2198—ab
  myoma of dangers and treatment of 261—ab
  operative treatment of inveterate inversion of, 1044—ab
  perforating wounds of, inflicted during course of intrauterine instrumentation, 1734—ab, 2186—ab
  perithelial sarcoma of, 1227—O
  plea for prompt evacuation of, in eclampsia, 2041—O
  puerperal, bacteriology of, 866—ab
Uterus, puerperal, etiology of retroflexion of, 267—ab
  retrodisplacements of, modern methods of treatment of, 701—ab, 2090—ab
  retrodisplacements of, surgical treatment of, depends, 520—ab, 2001—ab
  retrodisplacements of, when and how to treat, 2096—ab
  retroflexions of, surgical treatment of, 250—ab
  retroversions of, after childbirth, prevention of, 2189—ab
  retroversion of, damages for, 2232
  retroverted, fallacies in surgery of, 1459—ab
  round ligament of, tumors in, 1287—ab
  rupture of, abdominal hysterectomy for, 2094—ab
  rupture of, and treatment, 952—ab, 1742—ab
  rupture of, at site of old cicatrix, 75—ab, 1190—ab
  stab wound of fetus in, 791—ab
  steam cauterization of, 1826—ab
  tents and drains for use in, 716—ab
  vaginal fixation of, 440—ab
  ventrosuspension of, and shortening of round ligaments, 2001—ab
  ventrosuspension of, during childbearing age, 707—ab
Utero abdominal wall fistula, delivery, by, 87—ab
Uvula, primary tuberculosis of, 1280—ab

V

Vacations and health, 134—E
Vaccination in Austria, 930—C
  in England, 414—ab
  of cattle against tuberculosis, 1738—ab
  restriction of power to exclude unvaccinated pupils, 864—ab
  with humanized lymph, 939—ab
Vaccine, calf, influence of temperature on, 2182—ab
Vaccine therapy, 1467—ab
  and therapeutic immunization, 80—ab
  in joint tuberculosis, 1625—ab
  in surgical infections, 1535—ab
  of gonorrhea in female children, 169—ab, 1298—O, 1301—O
  present status of, 1902—ab
  value of, in surgical infections, 2089—ab
Vaccines, autogenous bacterial, 1806—ab
  bacterial, in pyogenic processes, 792—ab
  in chronic otitis media, 1465—ab
  in general practice, 1466—ab
  use of, 1190—ab
Vagina, absorbing power of, especially for tuberculin, 1742—ab
  absorbing power of mucous membrane of, 2193—ab
  outlet of, lacerations of, 352—ab
Vaginofixation, management of delivery after, 1117—ab
Vanilla versus vanillin, 1720
Vaporization, 1826—ab
Varices, treatment of, 1384—ab
Varicocele, operation for, 169—ab
  technic of operation for, 2081—ab
Variola, 2197—ab
Vas deferens, tuberculosis of, 1539—ab
Vascular crises 626—ab
  disease of extremities, and Raynaud's disease, erythromelalgia and allied conditions, 1902—ab
  lesions of right centrum, progressive hemiplegia of left side due to gliosis and, 1035—ab
Vegetables, pseudotuberculous peritonitis from relics of, 1118—ab
Vein, pin imbedded in, 1509—O, 1797—C
Veins varicose epigastric, following phlebitis, 945—ab
Venereal diseases, conquest of, 348—ab
Venesection and cardiovascular affections 358—ab, 747—O
Venezuela, plague in, 418
Venous souffle, Smith's, 1743—ab
Ventricles of brain, drainage of, by transplanted blood vessels, 2095—ab
Ventrofixation an unsafe operation on uterus during child bearing age, 707—ab
  and shortening round ligaments, 2001—ab
  necessitating subsequent Cesarean section, 71—ab
Ventrosuspension, pregnancy and labor following, 707—ab, 1532—ab
Veratrum viride, in eclampsia, 1377—ab
  tincture, Norwood, 1565—ab
Vermin as disease carriers, 871—ab

Vermont medical news, 233, 683, 1165, 1520, 2168
  state board July report, 1274—ab
Veronal, overdosage of, 1229—O
  poisoning, acute, symptomatology, prognosis and therapy of, 265—ab
Vertebra, third dorsal, transverse severing of spinal cord at, 449—ab
Vertebræ, actinomycosis of, 344—ab
  cervical, unilateral dislocation of, 709—ab
Verumontanum, disturbances due to disease of, and treatment with posterior urethroscope, 160—ab
Vesiculitis, tuberculous seminal, 948-ab
Vibrotherapy in gynecology, 344—ab
Vienna, gynecology at, 1913—ab
  letter, 51, 236, 420, 686, 856, 930, 1022, 1167, 1246, 1346, 1438, 1523, 1614, 1709, 1880, 2070, 2171, 2227
  medical work in, 320—E, 688—C
Vignin of cow-pea, hydrolysis of, 1108—ab
Virchow monument, 51, 329
Virginia medical news, 233, 768, 853, 1520, 1609, 2225
  state board June report, 1801
  University of, higher medical standards at, 1273—ab
Virus of three-day fever, 1823—ab
Viscera, disease of, painful cutaneous zones in, 944—ab
  female pelvic, supports of, in which intra-abdominal pressure is still further defined, 1616—ab
  innervated by sympathetic, sensitiveness to pain of, 2195—ab
  pelvic, displacements of, pathology and operative treatment of, 263—ab
  pelvic, female, supports-in-chief of, 263—ab
  ptoses due to, and movable kidney, corset for, 1568—O
  tuberculosis in, 1449—ab
Vision, color, and other senses, 1737—ab
  defective, in Philadelphia school children, 1533—ab
Visitors, apparatus for providing with complete view and for securing photographs and moving pictures of operations, 1551—ab
Vital processes, energy and matter in, 1647—ab
  statistics: See Statistics
Vitality, influence of overweight and underweight on, 1032—ab, 1187—ab
Vivisection: See Animal Experimentation.
Voice as affected by general conditions, 1372—ab
  production, essentials of, 1031—ab
  sign, epileptic, 1729—ab
Volume and specific-gravity of organs, 1816—ab
Volvulus of stomach, dilatation of, 1616—O
Vomiting and postanesthetic nausea, administration of oxygen for, 524—ab
Vomiting of infants, habitual, cardiospasm as cause of, 1043—ab
  intractable, operation for, 74—ab
  obstinate, 2000—ab
  of pregnancy, 845
  of pregnancy, uncontrollable, 1380—ab
  of pregnancy, uncontrollable, successful suggestive treatment, 86—ab
  periodic, 82—ab
  prevention of, during first whiffs of ether, 717—ab
  recurrent, paroxysmal syndrome, probably allied to, 2002—ab
Vulvovaginitis, gonococcus, inoculation treatment of, in children, 169—ab, 1298—O, 1301—O

W

Walnut juice hair dye, dermatitis following use of, 1035—ab
War, medical service in modern army in, 1995—ab
Warts, 131, 675, 1513
  infective, 1645—ab
Washington medical news, 49, 137, 327, 683, 769, 926, 1089, 1435, 1521, 1791, 2068, 2168
Wassermann test reaction for syphilis: See Syphilis, Serodiagnosis of
Water and salt, pathology of metabolism of, 1559—ab
  and sewage, committee on standard methods of chemical analysis of, 942—ab
  distilled, adjustment of paramecium to, and its bearing on problem of necessary inorganic salt content, 1817—ab
  drinking, its use and abuse, 258—ab
  drinking, may it not when polluted with sewage, be one medium of dissemination of tubercle bacillus? 380—O
  drinking, on steamships, 2191—ab
  potable, consumption of, 2187—ab
  supplies, public, state control of, 942—ab
  supplies, purification of, lessened morbidity due to, 1431—E
  typhoid due to, 2088—ab
Waters, mineral, therapeutic action of, 2188—ab
Weather, anticyclonic, relation of, to prevalence of influenza and pneumonia on northern hemisphere, 660—O, 1281—ab
Weight and age in fetus, relation between, 919—O
  bearing, influence of, on tuberculous joint disease, 342—ab
  physiologic loss of, in thin dyspeptics 1285—ab
  sense of, on affected side, value in diagnosis of lobar pneumonia, 2186—ab
Wells, etc., precautions before descending into, 537—ab
West-Virginia medical news, 233, 1609
  state board April report, 64
  state board July report, 1172
Westphal sign in healthy, 1288—ab
Wheeler's nerve vitalizer, 1717
White race in tropics, 412—E
  swelling, neutral potassium oxalate in, 2099—ab
Whooping-cough, 1739—ab
  abdominal binder for, 1376—ab
  aphasia during, 711—ab
  experimental reproduction of, 2018—ab
  measles and influenza, relation of, to tuberculosis in children, 1366—ab
  morphology of blood in, 1462—ab
  new treatment of, 532—ab
Wine, beef and iron, 1025
Wisconsin, medical defense in, 56
  medical news, 49, 327, 853, 1165, 1521, 1610, 2068, 2168
  state board July report, 1171
Witness, calling of physician as, waives privilege as to prior examinations, 787
  competency as, of physician disclaiming to be an expert, 72—ab
Woman labor as factor in social life, 429—ab, 1553—ab
  necessity of carefully considering any diseased conditions of reproductive organs of female, what it means to health of, and increase in population, 1280—ab
Women, acute diffuse peritonitis in, shall we use vaginal or suprapubic drainage in? 1551—ab
  appendicitis in, and its importance in gynecology, 538—ab
  cancer of uterus not a disease peculiar to, 2185
  child-bearing, reduction of mortality and morbidity of, if maternity hospitals were more in favor, 623—ab
  development of, influence of education on, 1995—ab
  diffuse peritonitis in, 1110—ab, 1640—ab
  external genitals of, and development of hymen, 1903—ab
  genitalia of, repair rather than removal of, 1459—ab
  gonorrhea in, 533—ab
  in business, affecting health and morals, 429—ab, 1553—ab
  in business, affecting health of race, 429—ab, 1553—ab
  in business, affecting home life and marriage, 429—ab, 1553—ab
  insane, pelvic diseases of, operations for relief of, 623—ab
  lying-in, excretion of creatinin in; involution of uterus, 263—ab
  non-pregnant, abnormal secretion from mammary glands in, 1839—O
Women, pregnant, plea for painstaking supervision of, 1905—ab
  prolapse of urethral mucosa in, 1781—ab
  refused admission to Royal College of Surgeons, 510
  study of medicine by, in Germany, 510
  suburethral abscess in, 797—ab
  syphilitic, antibodies in milk of, 1409—ab
Work cure, 1485—O
  physical inability to, 1638—ab
Worms, inroads of, on family practice, 2178
Wound, stab, of fetus in uterus, 791—ab
Wounds, bladder, gastric and duodenal ulcers secondary to, 260—ab
  bladder, in hernia operations, 1722—ab
  gunshot, of lung, treatment of, by primary suture, 1471—ab
  gunshot, of spinal cord, operative treatment of, 1471—ab
  gunshot, treatment of, 1270—ab
  involving thorax and abdomen, access to, 1285—ab
  of eyeball, penetrating, prognosis in, 312—O
  of uterus, perforating, during instrumentation, 1734—ab, 2186—ab
  operative, infection of, by malignant disease, 748—O
  penetrating, of thoracic and abdominal cavities, 625—ab
Wry Neck: See Torticollis
Wyoming medical news, 1165
  state board June report, 696
  state board October report, 2087

Y

Yaws, flies as carriers of contagion in, 712—ab
  Treponema pertenuis (Castellani) and experimental production of, in monkeys, 950—ab
Yeast, brewers', directions for making, 1716
Yellow-fever, 233
  and mosquito, 2199—O
  in France, 1515—E, 1708
  method of spread of, 166—ab
  research, a pioneer in, 72—ab
Yew, poisoning and abortion by, 1741—ab
Yoghurt, 1043—ab

Z

Zander methods, mechanical treatment of diseases of circulatory system with special consideration of, 1372—ab
Zaufal retires, 50
Zoologic laws to man, application of, 1167
Zygomatic fossa, abscess in, 946—ab

CURRENT MEDICAL LITERATURE

INDEX OF SUBJECTS

Explanation: This index refers to the titles and the subjects of original articles published in the leading medical journals of the world, including THE JOURNAL, during the past six months. The reading matter which appeared in THE JOURNAL is not indexed here, except the original articles and the abstracts of original articles. The titles of the articles and the names of the journals in which they appeared were listed weekly in the Department of Current Medical Literature, and it is to them that references are here made. The figure in parenthesis refers to the paragraph; the number following, to the page in THE JOURNAL. For instance, "Abdomen, fibroma of wall of, (45) 75," refers to page 75 of THE JOURNAL, on which is found, in paragraph numbered 45, the title of the paper and the name of the author, viz, "Fibroma of the Anterior Abdominal Wall, W. Krusen." This title is listed under the journal in which the article appeared, the *American Journal of Obstetrics*, May, 1908. When "ab" follows a page number it indicates that the article was abstracted in THE JOURNAL; for instance, "Abdomen, gunshot wounds of, (16) 1276—ab." On page 1276, paragraph 6, will be found an abstract of this article, which appeared in the *New York Medical Journal*, Sept. 26, 1908. Titles of articles which appeared originally in THE JOURNAL are indicated in the index by an asterisk (*) before the page number; for instance, "Ablatio Placentæ, *1845," refers to page 1845 of THE JOURNAL, on which is found the complete original article. The index *to authors* of all articles, both original and those listed under Current Medical Literature, appears separately on pages 2321 to 2336 of this index.

A

Abdomen and thorax, access to wounds involving, (52) 1285—ab
  and thorax, diseases of interrelations of, (21) 354, (18) 444—ab
  and thorax, inflammations in, differentiated from appendicitis, (75) 169, (80) 441—ab
  and thorax, orthodiagraphic examination of organs in, (135) 1743
  and thorax, penetrating wounds of, (81) 625—ab
  and trunk, body elevator and support for operations on, *126
  diseases of, indications for immediate operations in, (63, 64) 1642—ab
  electric massage of, (46) 1374
  fibroma of wall of, (45) 75
  foreign bodies left in, after operation, (28) 1033, (68) 1035—ab
  gunshot wounds of, (144) 353, (50) 440, (130) 1111, (6) 1276—ab, (111) 2194
  gunshot wounds of, plastic repair of, (144) 353
  injuries of, (15) 536
  lesions in, of pelvic origin, (23) 712
  lower left quadrant of, significance of pain in, (145) 1906
  pressure conditions within, (27) 1033—ab
  postoperative gas distension of, prevention of, (79) 1904—ab
  right upper quadrant of, infection in, (99) 534
  surgical diseases of, reflex gastric symptoms factor in, (133) 1553
  technic, improved, for opening, (132) 1474
  three procedures for entering, *912
  wounds of, non penetrating, (61) 441
Abdominal and pelvic operations, plea for drainage in, (75) 2004—ab
  auscultation as aid in diagnosis, (3) 2234
  cancers, secondary implanted, (82) 356—ab
  colic, (114) 2100—ab
  contusion, isolated laceration of mesentery after, (72) 1648
  contusions, (108) 1116
  diagnosis as tested by operation, (56) 624—ab
  disease, observation of pathology on operating table necessary to accurate diagnosis in, (140) 1906
  disorders, acute, cutaneous tenderness in, (19) 795—ab
  hysterectomy for cancer of uterus, (21) 2004—ab
  incision, legal aspect of, (65) 1818
  neoplasms differential leucocyte count in diagnosis of, (76) 1904
  organs, sensibility of, (179) 87—ab
  pain, diagnostic significance of, (169) 171, (109) 1037—ab
  pain, significance of, in atypical appendicitis, (75) 625—ab
  pelvic and labial tumor, (7) 2234
  reflex, (122) 878
  Section See Laparotomy
  strain, bursting of intestine from, (68) 798
  surgery, exclusive of hernia, (121) [illegible]
  surgery, leucocyte count in, (5) 1276
  surgery, recent work in, (28) 1190
  wall, desmoid tumors of, (35) 1033
  wall, fibroma of, (129) 1553, (126) 1742
  wall, inflammatory tumors in, following appendicitis, (69) 2193
  wound, new method of closing, (61) 2188
Ablatio placentæ, *1845
Abnormalities, human, inheritance of, (34) 262—ab
Abortifacient, poisoning from fish berries used as, (101) 2099
Abortion and miscarriage, etiology and symptomatology of, (83) 351
  and miscarriage, prophylaxis and medical treatment of, (84) 351
  and miscarriage, surgical treatment of, (85) 351
  and poisoning by yew, (109) 1741 ab
  causes of, (38) 1817—ab
  criminal, *957, (39) 1816, (89) 1819
  criminal, and race suicide, moral aspects of, (88) 1819—ab
  curette and treatment of, (139) 1117—ab
  early and extrauterine pregnancy, differential diagnosis of, (32) 2186
  indications for, in morbid dread of labor, (106) 84
  instrumental, (148) 360
  missed, (118) 1117—ab, (107) 1644
  or full term delivery, gonococcus as factor in infection following, (59) 2091
  treatment of, (92) 956, (123) 870
Abscess, appendiceal, treatment of, (3) 870—ab
  between iliopsoas and head of femur, (40) 2191—ab
  brain, 667, *756, (108) 1466
  brain, diagnosis of, (91) 632—ab
  brain, extradural, (129) 870
  brain, of otitic origin, (9) 627, (88) 793, (138) 950, (93) 2092
  brain, partial auditory and visual aphasia with object blindness due to, (82) 869
  brain, with chronic purulent otitis media, (34) 1551
  cerebral, *667
  cerebral, and pyonephrosis, *756
  cerebellar, and lateral sinus thrombosis, (122) 1377
  cold retromammary, (46) 629—ab
  in zygomatic fossa, (36) 946—ab
  extradural, (129) 870
  gaseous, in displaced liver, (44) 355
  high pelvic, conservative drainage of, (93) 1110
  liver, (37) 1737
  liver, amebic, a preventable disease, and postoperative sepsis as lethal factor, (14) 1821,—ab
  liver, amebic, in monkey, (45) 1035
  liver and dysenteric amebiasis, (17) 1820
  liver and hydatid cyst, differential diagnosis of (132) 1743
  liver, diagnosis of, (25) 2186
  liver dysentery without, (12) 1820—ab
  liver treated by aspiration and injection of quinin, (16) 1820
  liver tropical, (11) 1820
  liver, tropical, is dysentery sole cause of? (15) 1821—ab
  liver, tropical or amebic as preventable disease, (29) 1907
  liver, tropical, prevention of, (28) 349—ab
  liver, tropical, rapidly cured by flexible, sheathed trocar, (7) 1906
  of lung, chronic, operative treatment of, (83) 1040
  of lung from ascending infection from appendicitis, (16) 1549
  of lung, pneumopleuritis followed by, (61) 1642
  of nasal septum, probably due to anthrax, *1697
  of orbit, secondary to nasal disease, (114) 1037
  of spleen, (42) 1737
  of tongue, deep, operation for, (79) 175
  of uterus, hysterectomy, recovery, *127
  otitic cerebellar, treatment of, (9) 627
  pelvic, secondary to peritonitis, (51) 355
  pelvic, treatment of, (89) 169—ab, (80) 1825—ab
  pelvic rectal drainage in, (130) 353—ab, (15) 711—ab
  periauricular, and furuncle of external meatus, simulating mastoid disease, (59) 1280
  perinephritic, in children, (129) 442
  perinephritic, stone, and tuberculosis of kidney, (141) 353—ab
  perityphlitic, necessary for appendicectomy after, (2) 535—ab
  prevesical, (41) 1033
  subperiosteal, in infants, (67) 792
  subphrenic, (53) 1285—ab (63) 2008—ab
  suburethral, in women, (42) 797 ab
Abscesses appendiceal, unoperated, intestinal tears following, and their medicolegal relations, (74) 624—ab
  fixation, in puerperal infection, (17) 2255—ab
  spondylitic, in posterior mediastinum (74) 1114—ab
  traumatic, of anterior mediastinum, (78) 1114—ab
  treatment of, (121) 1827
  tuberculous treatment of, (60) 76—ab (68) 709—ab
Absorption, capacity for, of mucous membrane of uterus and vagina, (57) 2193—ab
Academy of Medicine, Detroit, deceased founders of, (107) 442
Acanthia lectularia, spirochetes in, (48) 1039
Acanthosis or ichthyosis, (82) 710
Acardia, embryologic study of, (105) 1473
Accident insurance and legal indemnity, value of vision in its relation to, (70) 1109
  lung affections following, (108) 84 ab
Accidents due to antiseptics in surgery, (97) 953
  electric, (114) 1383—ab
  electric, suddenly fatal, 2100—ab
  occupational, in telephone girls, (51) 953
  industrial, and traumatic inflammation of joints, compensation for, (60) 1880
Acclimatization, physiology of, (100) 876
Accouchement forcé, (87) 503—ab: See also Delivery
Acetabulum, gonorrheal coxitis and protrusion of floor of, (89) 2098
Acetic aldehyd in wine, (48) 1737, (29) 2094
Acetone in inoperable carcinoma of uterus, (54) 947
  postanesthetic acetonuria with delayed excretion of, after childbirth, (13) 2005
Acetonemia, fatal, (141) 534
  periodical, blood findings in, in young children, (112) 1289—ab
  periodic, in older children, (100) 716—ab
Acetonuria, (5) 347
  and acidosis, (123) 878
  postanesthetic, with delayed excretion of acetone after childbirth, (13) 2005
Achondroplasia, (2) 165
Achylia gastrica, (45) 440—ab, (10) 1901
  diarrhea from, in children, (99) 2099—ab
  Einhorn's versus insufficientia pylori, (7) 1729
  pathogenesis and etiology of, (112) 1826—ab
Acid, acetyl salicylic, in follicular tonsilitis, (59) 2188
  B oxybutyric, quantitative determination of, in urine, (47) 1731
  camphoric, action and uses, (5) 72
  cinnamic, intravenous treatment of consumptives with, (67) 1557
  diazobenzene sulfonic, action of, on thymin, uracil and cytosin, (43) 1731
  formic, derivatives, of, in cancer, (6) 1467—ab
  glutamic, ingested in phloridzin glycosuria, production of sugar from, (72) 350
  glutaric, action of, on phloridzin diabetes, (55) 954, (92) 1288
  glycothionic, (160) 870
  hydrochloric, action of, on secretion of ferments in stomach and pancreas (71) 875
  hydrochloric, dependence of digesting power of pepsin in infant stomach on, presence of, (97) 1116
  hydrochloric, influence of, on digestion of pepsin, (80) 1558
  hydrochloric, perverted secretion of, diagnostic value of, (5) 1638—ab
  hydrochloric secretion of, and use of, in therapeutics, (129) 2197—ab
  intoxication, (119) 170—ab: See also Acidosis
  intoxication, fatty, (14) 1736—ab
  intoxication, fatty, in children, (15) 1737
  nitric, inhalation of fumes of, in chronic bronchitis, (154) 1475—ab
  nitrous, nitrites and aqua regia in determination of mineral constituents of urine, (32) 1278—ab
  oxalic, poisoning, (71) 1738
  pyroligneous, dangers of, (113) 1561—ab
  thioglycolic, and atoxyl, mixture of, in experimental nagana, (66) 1470
  trichloracetic, *916
Acidosis, (165) 1189 See also Acid Intoxication
  and acetonuria, (123) 878

- Acidosis and catalytic action of lipase, (49) 947
  - diabetic, underlying chemical principles of, (27) 73—ab
- Acids, fatty, oxidation of phenyl derivatives of, in animal organism, (44) 1731
- Acne agminata, (83) 710
  - and alopecia, relation of seborrhea to, (43) 1374
  - rosacea, treatment of, (150) 86
  - vulgaris, chronic, vaccine therapy of, (47) 2007
- Aconite and belladonna, physiologic antagonism between, (13) 951—ab
- Acromegaly and hypophysis, (59) 1557—ab
  - and tumors in hypophysis, (124) 878—ab
  - and x-ray, (75) 1618
  - blood in, (86) 1288—ab
  - diabetes mellitus in, and hypophysis glycosuria, (116) 1826
  - osseous plaques of pia arachnoid and pain in, (91) 1376—ab
- Actinomycosis, (46) 1551—ab
  - of pelvis, (12) 944
  - of vertebræ, (52) 1903
- Adams-Stokes' disease, (16) 1372
  - disease and disturbance in conduction of impulse, (94) 1041—ab
  - disease, clinical and pathologic study of, (41) 2002—ab
  - disease, retrogression of, (95) 1041—ab
  - disease with induration in bundle of His, (57) 630—ab
  - syndrome observed for more than eight years, (10) 2093—ab
  - syndrome, syphilitic, (147) 1475—ab
- Addison's disease, hyperplasia of thymus in, (105) 877
- Adenitis, cervical and submaxillary, in convalescence from diphtheria, (84) 2006
  - cervical, and systemic infections, submerged tonsil and, (76) 710
  - inguinal, (22) 531
  - neutral potassium oxalate in, (111) 2099—ab
- Adenoid and tonsil operations, results in, (11) 1277
  - and tonsil operations, status lymphaticus and anesthesia in, (68) 1185—ab, (105) 1552
- Adenoidectomy and tonsillectomy, technic of, (132) 1037—ab
  - prevention of hemorrhage during, (92) 441
  - technic of, and perfected curette, (104) 1552
- Adenoids, (96) 352, (139) 1282, (57) 2003
  - and catarrhal disease of ear, (99) 2005
  - and diseased tonsils, why they should be removed, (135) 1820
  - and impaired hearing, responsibility of physician for future of child with, (42) 1374—ab
  - and inability to concentrate attention, (130) 450—ab
  - and tonsils, diseased, pathology and treatment of, (104) 352—ab
  - and tonsils, diseased, removal of, to rid throat of diphtheria bacilli, (66) 1280
  - and tonsils, enlarged, and mental and physical development of children, (69) 441
  - and tonsils, hypertrophied faucial, an etiologic factor in backward children, (87) 869
  - and tonsils, surgery of, (20) 1184—ab, (104) 1187
  - early operation for, (133) 170
  - inflammation of types of pneumonia with, (7) 1276—ab
  - in nasopharynx, (158) 1734
- Adenoma malignum of vaginal portion of cervix, (135) 2198
  - malignum, uterine, with vaginal implantation 11 years after operation, (77) 2189
  - of thyroid, (144) 1734
  - of testicle, non-existence of, (35) 173
- Adenomata, two, of islands of Langerhans, *1075
- Adenomyoma, uterine, (54) 630, (53) 1646
- Adenopathy, bronchial, vertebral auscultation in diagnosis of, (70) 709—ab
- Adhesions after laparotomy, (161) 86
  - intra-abdominal, (53) 2090—ab
  - intraperitoneal, sterile oil in prevention of, (138) 353—ab
  - peritoneal, (67) 1287—ab
- Adipose genital degeneration, removal of hypophysis for, (103) 877—ab
- Adiposis-dolorosa, (21) 439—ab, (11) 1901—ab
- Adiposis-dolorosa, with involvement of large nerve trunks, (17) 2088
- Adnexa and appendix, inflammation of, differential diagnosis, (78) 539
  - diseased bilateral, removal of, by transverse fundal excision, (87) 956—ab
  - inflammations of, operative treatment, (76) 1287—ab
  - suppurative affections of, (53) 538
- Adolescence, osteomyelitis of, (21) 1462
- Adolescents, acute osteomyelitis in, emergency treatment of, (42) 263
  - coxa valga of, (72) 1286
- Adrenal Gland: See Suprarenals.
- Adrenalin, action of, injected subcutaneously, (101) 1913
  - and lymphagogs, antagonistic action of, (69) 539—ab
  - diabetes produced by, (44) 537
  - diuretic action of and active principle of pituitary gland, *1849
  - intravenous injections of, in rabbits, liver affections after, (87) 447
  - saline infusion, intravenous, efficacy of, (115) 266—ab
  - saline injections as adjuvant in severe diphtheria, (90) 799
  - specific reaction of, (117) 1474—ab
  - therapeutic action of, applied to skin, (44) 1908—ab
  - therapy, (48) 1817
- Adult, acute anterior poliomyelitis in, (14) 706
  - spastic spinal paralysis in, tenotomy of psoas magnus and parvus and iliacus, in, (103) 1826—ab
- Adults and children, defensive arrangements of body in, (2) 353—ab, (43) 1284—ab
  - syphilis of lung in, (147) 268—ab
- Advertising, unethical, and counter prescribing, (106) 352
- Africa, West, malaria in, (21) 73
- After-treatment, importance of, in surgical cases, (82) 1732
- Age and incipient cataract, blood pressure in, *400
  - and weight in fetus, *919
  - at first menstruation, and development of pelvis, (54) 2192—ab
  - chronologic and anatomic, in early life, *1197
  - old, (124) 1734—ab
  - old, from forensic standpoint, (103) 1560—ab
  - old, gastric secretion in, (43) 349—ab
- Aged, prostatic hypertrophy in, (64) 624
- Aggressins, streptococcus, in blood in puerperal sepsis, (89) 799
- Agglutination, bacterial, of red corpuscles, (101) 800
  - of staphylococci, (126) 1290
  - reaction, value of and of bacteriologic methods in diagnosis of glanders, (52) 2003—ab
  - test, simple typhoid, (53) 1374—ab
- Agglutinins and opsonins, (72) 1465
  - production of, in body by inoculation of substances other than products of bacterial origin, (157) 870
- Aggressins, actions of, (112) 1116
- Ainhum, (42) 791
- Air and food passages, use of bronchoscope and esophagoscope for location and removal of foreign bodies in, (132) 1734
  - baths in tuberculosis, (101) 1560
  - cells, accessory, in septum nasi, (28) 1467
  - change of, in adult life, (26) 444-ab
  - dry hot, therapeutic application of, (100) 1187
  - embolism in obstetrics, prevention of, (42) 2238—ab
  - fresh, and nutrition in laryngeal and pulmonary tuberculosis, adjuvants to, (55) 1465—ab
  - hot, in acute inflammations, (120) 1827—ab
  - infections of minor importance, *2048
  - injections of, (86) 176
  - injections of, in recurring pleural effusions, (55) 1738
  - insufflation of, in pleural effusion, (59) 1380—ab
  - liquid, resistance of embryonic epithelium, transplantable mouse cancer, and certain organisms to freezing with, (55) 2003—ab
  - open treatment by, (10) 944
  - passages, upper and digestive tract, infection by, (116) 1651—ab
  - passages, upper, tuberculosis of, seashore in, (127) 359
  - passages, upper, tuberculosis of, treatment of, (12) 255
  - passages, upper, x-ray in diagnosis and treatment of diseases of, (92) 2010
- Air, superheated, in gonorrheal joint affections, (86) 447—ab
- Alabama, State M. A., organization of, (148) 78
- Albumin, foreign, influencing of malignant tumors by, (53) 797—ab
  - foreign, production of antibodies by, in child, (80) 715
  - in urine, instrument for estimation of, *1511
  - in urine, quantitative estimation of, *38, *2055
- Albuminoids, endobacillary, and serum treatment of tuberculosis, (86) 1740—ab
- Albuminometer, new, (64) 1647
- Albuminuria, alimentary, diagnosis and significance of, (23) 2186—ab
  - in parathyroid insufficiency, (124) 450—ab
  - in pregnancy, significance of, (53) 867
  - orthostatic, (173) 87, (127) 1561
  - orthostatic, and tuberculosis, (31) 349—ab
  - orthostatic, induced, (122) 2197
  - physiologic, (116) 1037
  - pregnancy and eclampsia, parathyroid, treatment of, (119) 1651—ab
- Alcaptonuria and ochronosis, (98) 448—ab
- Alcohol, abuse of, in children's diseases, (10) 622—ab
  - accuracy in the study of mental and nervous disorders from, (93) 1466
  - and mental diseases, (25) 172, (51) 349, (24) 1736
  - and metal poisoning causing neuroses, (186) 951
  - and moral degeneracy, (94) 1466
  - as cause of insufficiency, (15) 871
  - disease and mortality from, (47) 349
  - effect of, on protoplasm, (176) 171, (89) 1466
  - effect of, on secretion and digestion, (161) 793
  - influence of, in services, (13) 871—ab
  - injection of, in trigeminal neuralgia, (3) 1276—ab
  - insanity due to, (49) 349, (95) 626
  - latest verdict of science on, (17) 1462
  - maximum dose of, (93) 1382—ab
  - medical profession losing faith in, (101) 1377
  - negative food value of, and its action as specific nerve poison, (118) 634
  - psychoses due to, (1) 1638—ab
  - relation of, to physical deterioration and national efficiency, (44) 349
- Alcoholism, (85) 1186
  - and cruelty to children, (20) 261
  - chronic, (159) 1037
- Algeria and Tunis, plague in, (60) 1469—ab
- Alienist and expert testimony, (3) 530—ab
- Alimentary-tract, examination of, (167) 171
  - perforating ulcers of, (6) 944
  - perforation of, by swallowed bodies, (107) 1282—ab
- Alkali, available, in ash of human and cow's milk and infant nutrition, (23) 1033—ab
- Alnus serrulata, (98) 949
- Alkaloids and proteid digestion, (115) 352
- Allergy test, and conjunctival tuberculin reaction, (87) 176
- Alopecia and acne, relation of seborrhea to, (43) 1374
  - congenital circumscribed, (27) 172
  - hyperemia in, 1389—ab
- Alpha-monobrom-isolvalerylurea, (3) 165, (5) 255
- Altitude, effect of, on heart lesions in children, (63) 948
  - high, effect of on viscosity of blood, (139) 85
  - high, blood pressure in tuberculosis at, (18) 944—ab
- Alveolitis, or some pathologic conditions arising from inefficient care of the mouth, *2113
- Amaurosis in pregnancy, (118) 177—ab
- Ambylopia, little known type of, in children, (12) 627—ab
  - recurrent, temporary, of angiospastic origin, (127) 442
- Amboceptors and complement in typhoid serum, (44) 1464
- Ambroise Paré—man and surgeon, (142) 534
- Amebas, dysenteric, and liver abscess, (17) 1820
  - in intestine of man, (30) 256—ab
- Amebas, intestinal, dysentery with, but without liver abscess, (12) 1820—ab
  - result of 300 examinations of feces for. (46) 1108—ab
- Amebiasis, (64) 1375—ab
  - intestinal, (13) 1820—ab
- Amenorrhea and dysmenorrhea, tuberculin in, (117) 2012—ab
- America, teaching of neurology in, *1
- American Electro-Therapeutic Association, advancement of the, (121) 1820
  - Surgical Association, early days of, (98) 259—ab
- Ammonia and nitrogen estimations, total, toxemic pernicious vomiting of pregnancy with, (32) 1107
  - inhalation of, causing fatal inflammation of lungs, (66) 1828
- Amniotic fluid, hydrorrhea of, (123) 717
- Ampulla of Vater and common bile duct, melanotic sarcoma of, (106) 260—ab
- Amputation above malleolus, with osteoplastic operation on calcaneum and tibia, (46) 1822
  - above shoulder joint, (78) 792
  - in diabetic gangrene, (13) 789—ab
  - interscapulothoracic, successful, (33) 354
  - of anus and rectum, bloodless method of, *991
  - of penis, technic of, (114) 266
  - stump, old, plastic resection to restore function to, (52) 1909—ab
- Amyl nitrite in pulmonary hemorrhage, (89) 869—ab
- Amyloid degeneration, etiology of, (98) 266
- Anal fistula, advantage of elastic ligature in certain cases of, (29) 1107—ab
- *Analgesia: See also Anesthesia.*
- Analgesia, nasal, in prognosis of dry catarrhal deafness *750
- Analgesics, in pediatrics, (64) 257
- Anaphylactin, chemical separation of, from horse serum, (93) 869
- Anaphylaxis, (100) 869, (108) 1110, (107) 2011
  - and toxogenins, (32) 712
  - bacterial, (107) 717, *836
  - cell and tissue, localization of, in guinea-pig, (99) 869
  - chemistry of, (56) 2003—ab
  - mechanism of, and horse serum, (33) 712
  - produced by organ extracts, (86) 799
  - reaction of, (56) 168
  - serum, and intoxication in guinea-pig, (92, 97) 869
  - serum disease as clinical manifestation of, (59) 709—ab
  - serum, (108) 1110, (23) 1184—ab
  - specific nature of, (98) 869, (80) 1466
- Anaplasia, apparent, of cancer cells, (117) 877
- Anasarca from retention of urine, (129) 1743—ab
- Anastomosis and transplantation of vessels, (141) 268
  - arteriovenous, and splenectomy, in Banti's disease, (47) 1108
  - between the portal vein and the inferior vena cava in collateral circulation in hepatic cirrhosis, (118) 450
  - facio-hypoglossal, *455
  - intestinal, *516
  - intestinal, of mucosæ, with rubber sutures, (138) 359—ab
  - intestinal, without open incision by basting stitches, (51) 168
  - resection and end-to-end, of oviduct in hen without loss of function, (52) 1108—ab
  - uretero-vesical, *1321
  - vascular, suture of blood vessels and direct transfusion of blood by, (25) 1278
  - vessel, by rubber tubing, (18) 1550—ab
- Anatomy and pathology of hernial sac, (5) 1111—ab
  - and surgery of peritoneum, (14) 865
  - applied, of tonsil, (10) 1277—ab
  - barred road to, (27) 945
  - of infants, peculiarities of, (100) 2189
  - pathologic, and microbiology of grave jaundice in secondary syphilis, (43) 1646
  - pathologic, of hydrazine poisoning, (151) 870
  - pathologic, of liver, (90) 2098
  - pathologic, of solar plexus in consumptives, (49) 538
  - pathology and therapy of chronic endometritis, (58) 2193—ab
  - surgical, of biliary ducts, (61) 1285—ab

Anatomy, surgical, of temporal bone bearing on spread and cure of suppuration, (137) 1906
  teaching and examination in, (22) 1111
  what is practical examination in? (61) 1815—ab
Anemia and fibromyomata of uterus, *1395
  aplastic, (109) 1650
  cerebral, ocular complications of, and thrombosis, (26) 1378—ab
  complete, of central nervous system, effect of in dogs resuscitated after relative death, (26) 2089
  experimental, (108) 1289
  from deficient production of blood, (46) 713
  in children, treatment of, (96) 1882
  in young children (78) 1912—ab
  of hepatic cirrhosis simulating pernicious type, *1143
  pernicious, (46) 174—ab (106) 534, (129) 950, (89) 1825—ab; (83) 1912—ab, (89) 2010—ab
  pernicious, and digestive tract, (105) 534—ab
  pernicious, and pregnancy, (38) 623—ab
  pernicious, and secondary chlorosis, (93) 352
  pernicious, blood in, (14) 627—ab, (36) 952—ab
  pernicious, cholesterin in, *2154
  pernicious, diagnosis of, (131) 85
  pernicious, etiology and treatment of (70) 1824—ab
  pernicious, histologic changes in blood producing organs in, (92) 176
  pernicious, kidneys in, (105) 266, (42) 155
  pernicious, milk vegetable diet in, (138) 1714—ab
  pernicious, progressive, (104) 534
  pernicious, recurring (33) 2094—ab
  pernicious, remissions in, *503
  primary, *leucocyte formula* in, (102) 799
  ring bodies in, blood in, (72) 174
  secondary, of tuberculosis, hypodermics of iron in, (9) 1461
  severe presenting *blood findings of* pernicious type, *1973
  splenic, (169) 1189, (10) 1462
  splenic, splenectomy, and recovery, (30) 866—ab
  temporary cerebral, return of function in central nervous system after, (155) 870
  temporary, resuscitation of glands and muscles after, (64) 350—ab
Anemias, (142) 442
Anesthesia, (135) 793, (63) 2003
  and professional anesthetist, (112) 1377
  at St Luke's Hospital, N Y, (10) 789
  chloroform, (131) 793, *1578
  chloroform and ether, (14) 789, (105) 1110
  chloroform, apparatus for, (14) 951
  chloroform, influence of covering mask with towel, (183) 87, (146) 1043—ab, (126) 1827
  Commission of American Medical Association, report of, *1572
  early, history of, (142) 1282
  ether, (132) 793
  ether, administration of, *1574
  ethyl chlorid, apparatus for, (50) 1555
  gas ether, without complications, (41) 1372
  general, (79) 792
  general, advantages of with part of circulation cut off, (94) 1826—ab
  general, and lecithin, (122) 1117—ab
  general, ethyl chlorid for, (43) 173—ab, (59) 446, (51) 623, (29) 2089—ab
  general, improvement of, by adapting boiling point of anesthetic to temperature of body, (9) 789—ab
  hyoscin morphin, in obstetrics, (133) 793 (12) 1377
  in dental and *major* surgery, *907
  in labor, (29) 2006
  in oronasal surgery, (9) 438—ab, (68) 1185—ab
  in tonsil and adenoid operations and status lymphaticus, (68) 1185—ab, (105) 1552
  local, (36) 537—ab, (127) 1553, *1582, (86) 1643
  local for operations on inguinal and femoral hernias, (125) 1117
  local, for tonsillectomy, (60) 1185—ab
  local, of limb by venous transfusion after expulsion of blood, (81) 1040—ab
  local, prostatectomy under, (115) 84—ab
Anesthesia, nitrous oxid, *1576
  practical points in, (55) 1279, (39) 1551, (110) 1819
  prolonged, in dental operations, new method of administering nitrous oxid for, (18) 2190
  quinin, painless tonsillectomy and adenectomy with, *496
  rectal, (154) 78, (134) 793
  scopolamin, (55) 624
  scopolamin morphin, (127) 267—ab, (45) 714—ab, (24) 2001—ab
  scopolamin morphin and chloroform, (13) 1377—ab, (45) 1468—ab
  scopolamin morphin, in obstetrics, (76) 875, (11) 1377, (123) 1827—ab
  special methods of, *1554
  spinal, (128) 450—ab, (133) 717, (45) 797—ab, (10) 1038, (5) 1189, (108) 2196—ab
  spinal, abducent paralysis after, (88) 1040
  spinal and Cesarean section, (98) 176—ab
  spinal, by Tuffier's method, (6) 1820
  spinal, changes in Nissl's granule with, (82) 1040
  spinal, gum arabic in, (92) 540—ab
  spinal, *in gynecology*, (99) 716—ab
  spinal, *mishaps with*, (90) 1740
  spinal, stovain, (82) 1287—ab
  spinal, stovain, deaths after, (36) 1190—ab
  spinal, *technic for at Bier's clinic*, (107) 2196—ab
  stovain, modifications in nervous system after, (70) 955—ab
  surgical, blood changes in, *1586
  surgical, introduction of, (1) 1815—ab
Anesthesias, 600 general, statistics of, (117) 170
Anesthetic, boiling point of, improvement of general anesthesia by adapting, to temperature of body, (9) 789—ab
  choice of, in rectal surgery, (31) 707
  general, choice of, (37) 1907
  local, cocain as, in radical operation for inguinal hernia (95) 1552
  nitrous oxid with oxygen, as, (67) 624
  or knife, intravesical operations for benign tumors without, (95) 2092
Anesthetics, (128) 260
  administration of, (31) 623—ab, (11) 789, (26, 27) 1901
  at Hospital for Ruptured and Crippled, (12) 789
  choice of, with reference to C E mixture, (38) 1284
  history and administration of, (113) 1377
  local, indications for, and selection of (28) 1901
  personal factor in, (37) 1646—ab
  physiologic action of, (25) 1901
  prevention of deaths under, (33) 1378—ab
Anesthetist, professional, (8) 789—ab, (112) 1377
  necessity for better training for, (74) 1380
  status of, (100) 1037
Aneurism, aortic, (90) 1643
  aortic, abdominal, (74) 1375
  aortic, compressing heart and vessels at its base, (39) 537—ab
  aortic, dissecting, (102) 177, (6) 255
  aortic, relieved by calcium chlorid, (37) 1555—ab
  arterial, ideal operation for, (66) 1390—ab
  cardiac, *371
  cardiac due to syphilitic gummata, (3) 1644
  cerebral, (2) 1189
  dissecting, of pulmonary artery, following rupture of arch of aorta, (6) 255
  dissecting of pulmonary artery, rupture into pericardium, (8) 171
  femoral, excision of sac, (32) 1821
  impeding supply of blood to brain and arms, (85) 2009
  in children, (82) 82—ab
  of thoracic aorta, (60) 1465
  popliteal, (95) 1904
  popliteal, aneurismorrhaphy for, (29, 31) 790—ab, (64) 1732
  radical cure of, by intrasaccular suture, *1667
  thoracic, (9) 172
  treatment of, by direct, gradual arterial closure, (63) 1818—ab
Aneurismorrhaphy, (29, 30, 31) 790—ab, (64) 1732
Aneurisms large, non expansile but transmitted pulsation of, (13) 2000—ab
Aneurisms, multiple, aortic, (41) 263
  of descending aorta, (88) 1825
Angina, Ludwig's, (78) 1818—ab, (30) 2089
  Vincent's, during pregnancy, (36) 1816
Angina pectoris, (56) 1642, (34) 2094—ab
  abortion of attack, (112) 177
  and pseudoangina, (97) 2189—ab
Angioma of choroid, (116) 1905
  of orbit with invasion of globe along ciliary nerves, (117) 1905
  radium treatment of, (37) 797—ab
Angiomata, muscular, (106) 800
Angiomyxosarcoma of larynx with expulsion of large tumor, (108) 1552
Angiospasm, retinal, and other vaso*motor neuroses*, (127) 442
Animal experimentation, *636
  organism, oxidation of phenyl derivatives of fatty acids in, (44) 1731
  pigment, *sensitizing action of*, and physiologic significance, (112) 2011—ab
Animals and man, absorption of fat in, under pathologic conditions (114) 1826
  attempts to resuscitate by passing arterial blood *through heart* and *central nervous organs*, (113) 2196
  domestic, of India, are they affected by plague? (25) 628
  domesticated, diseases of, communicable to man, (23) 1820
  effects of feeding, on iodin free diet, (146) 1111
  immunity against vaccinia in, (29) 2190
  new growths of, appearance of *heteroplastic tumors in transplantations* of, (5) 865
Roentgenized, bacterial infection in, (105) 448—ab
  serum of, nephrotoxic substances in, in experimental nephritis, (45) 1903—ab
  with *trypanosomiasis, serum* of, non specific disappearance of opsonin in, (113) 1741
Animism in antiquity and its present state, (84) *1643*
Aniridia, congenital, case of, (136) 1037
  traumatic, and aphakia, contusion of eyeball and, (127) 1282
Anisometropia, (110) 1037
Ankle joint, avulsion of, (30) 531
  joint drainage of, (59) 1185, (154) 1188—ab
  region injuries, especially of scaphoid bone, (77) 1114—ab
  sprained, treatment for, (121) 1377
  supernumerary bones in, (130) 85
  tuberculosis of, surgery of, (75) 631
Ankylosis, complete, of elbow, arthroplasty for, (36) *2090*—ab
  bony, of joint, transplantation of periosteum in, (56) 1822—ab
  of fingers, congenital, with brachydactylia, (81) 1287
  of jaws, (86) 715—ab
Ankylostomiasis, (22) 2190
  blood changes in, (7) 794
  British Guiana, (14) 1906
  in South Africa, (15) 1906
  in the tropics, sanitation regarding, (13) 1907—ab
Anopheles maculipennis, Meigen, larval and pupal stages of, (46) 1039
  occurrence and breeding places of, in tropics, method of destruction, and conditions that favor propagation of, *2203
Anorexia nervosa in infant, (57) 257
Antepartum examination, external, (29) 1033
Anthrax, administrative control of, (20) 712
  infection, causing abscess of nasal *septum*, *1697
  serum treatment of, in Philadelphia Municipal Hospital, (109) 1282
  tonsillar, primary, fatal, (107) 1041
  treatment of, (114) 2196—ab
Antibodies and antigens, determination of, in blood in typhoid, (65) 1738
  cellular, and antigens, in serum in kidney and liver disease, (94) 1195
  complement binding, in tuberculosis, and their importance in healing processes, (123) 2197
  in milk of syphilitic women, 1409—ab
  presence of, and cutaneous tuberculin test, (122) 266
  production of in child in response to foreign albumin, (80) 715
  production of by rectal incorporation of antigens, (163) 87
Antibodies, rôle of, in tuberculin reaction, (116) 717
  specific formation of, in Roentgenized animals, (105) 418—ab
  tuberculosis, and immunity, (67) 630, (58) 1193, (100) 1650
Antiferment treatment of suppuration without incision, (140) 359—ab, (91) 799
Antiferments, treatment of carcinoma based on action of, (52) 797—ab
Antigen in tuberculosis and infectious diseases, deviation of complement with tubercle bacilli derivatives as, (106) 1383
Antigens and antibody, determination of, in blood in typhoid, (65) 1738
  and cellular antibodies in serum in kidney and liver disease, (91) 1195
  from rabbits, serum diagnosis of syphilis with, (120) 878—ab
  organ, specificity, of (130) 634
  rectal incorporation of for production of antibodies (163) 87
Antigonococcus See Gonococcus
Antimalaria See Malaria
Antimeningitis See Meningitis
Antipepsin and antitrypsin in blood *serum*, (145) 1475
  in gastric ulcer and for protection of stomach against autodigestion, (68) 1558—ab
Antiphagins and opsonins in pneumococcus infection, (62) *1039*
Antiquity, animism in, and its present state, (84) 1643
Antiseptic vapors in pulmonary tuberculosis (31) 1646—ab
Antiseptics in surgery, accidents due to, (37) 953
  surgery without, (15) 622
  urinary, intestinal and wound, fate and action of, in body, *818
Antiserum, improved polyvalent, (77) 799
Antitoxic sera, antitoxin content and curative potency of, (106) 717
Antitoxin and toxin of dysentery bacilli, (67) 954
  diphtheria, collapse after injection of, **38*, (19) 255—ab
  diphtheria, in exophthalmic goiter, (60) 1818
  diphtheria, local measures to enhance efficacy of, (93) 540—ab
  diphtheria, production of, (73) 539—ab
  diphtheria, refined and concentrated, results from use of, (18) 166
  diphtheria, skin reaction to, *1510
  diphtheria, untoward results from, *1154
  imperfect absorption of, from rectum, (74) 955
  in diphtheria, (114) 793, (114) *914
  in diphtheria, large doses of, *918
  in diphtheria, problems of, (94) 1472—ab
  leucocytes in diphtheria before and after the administration of, (74) 1186
  preventive treatment of tetanus, (37) 537
  possibility of universal, (50) 947—ab
Antitrypsin *and antipepsin in blood* serum, (145) 1475
  in blood, (55) *797*, (145) 1475
Antituberculosis See Tuberculosis
Antityphoid See Typhoid
Antrum forceps, reverse, with sphenoid punch attachment, *1233
Antrum maxillary, anatomic and pathologic conditions of, and teeth, (44) 2007—ab
  ethmoid and sphenoid, submucous resection of lateral nasal wall in chronic empyema of, *1136
  dehiscence of, (69) *797*
  disease of, and general surgery, (13) *1038*, (43) 2007—ab
  diseased (43) 1641
  empyemia of, diagnosis and treatment of, (135) 78, (24) 261
  empyema of, of dental origin, (45) 557
  intranasal opening into, (59) 630
  involvement of, and ethmoidal *perforation of inner corner of eye*, *1025
  primary epithelioma of, (88) 441
  sinusitis of, and hay fever and asthma, (109) 352—ab
  suppuration in, treatment, (31) 1112, (18, 19) 1644
Antitrypsin, determination of, in blood, (51) 1380
Anuria with *cancer of rectum*, (58) 2008—ab
Anus and rectum, bloodless method of amputating, *991
  and rectum, imperforation of, surgical treatment of, in infant, (59) 1640—ab
  and rectum primary melanotic sarcoma of, (22) 790—ab

Anus, artificial, restoration of intestinal continuity following formation of, (93) 1186—ab
  choice of anesthetic in surgery of, (31) 707
  imperforate, rectum communicating with prostatic urethra in, (89) 1376
  imperforate, with rectovaginal fistula, *670
Aorta, aneurism of, (90) 1643
  abdominal, aneurism of, (74) 1375
  abdominal, experimental ligation *of, (101) 799—ab*
  abdominal, occlusion of, (6) 171
  aneurism, dissecting of, etiology, course and cure, (102) 177—ab
  aneurism, dissecting of, following rupture of arch of aorta, (6) 255—ab
  aneurism of, compressing heart and vessels at its base, (39) 537—ab
  aneurism of, relieved by calcium chlorid, (37) 1555—ab
  aneurisms, multiple, of, (41) 263
  degenerative changes in, etiology of, (5) 1644
  descending, aneurisms of, (88) 1825
  diseases of, serodiagnosis of syphilis in, (87) 2194
  rupture of, (99) 799
  thoracic, aneurism of, (60) 1465
Aortic incompetence, pocket formation in endocardium with, (103) 177
Aortic-insufficiency, and kidney heart, characteristics of venous pulse in hypertrophy of left heart with, (51) 174—ab
  dicrotic pulse with, (148) 1475
  simple, systolic murmur in, (129) 634
  suprarenal extract used in, (127) 450—ab
Apex, right, diminution of vesicular murmur at, (47) 537
Aphasia complicating typhoid in child, (39) 1185—ab
  during whooping cough, (17) 711—ab
  motor, and diplegia, idiopathic epilepsy complicated by, *1778
  motor, localization of, (44) 953
  motor, traumatic, (86) 1471
  theory of, and dynamic element, (65) 2008
  visual, and partial auditory, with object blindness, due to abscess of brain, (82) 869
Aphakia and traumatic aniridia, contusion of eyeball and, (127) 1282
Aphloia theœformis, in hemoglobinuric bilious fever, (52) 1380
Apomorphin poisoning and retching and paralysis of muscles, (83) 1381—ab
  variable effects of, (41) 1108
Apoplexy, (45) 791
  causes and treatment, (5) 1371
Apparatus for abdominal massage, (113) 800
  for applying cold in mastoiditis, (136) 85
  for artificial respiration when thorax has been opened, (140) 2198
  for automatic registration of footclonus, (126) 1914
  for chloroform anesthesia, (14) 951
  for administration of ether, (67) 1280
  for ethyl-chlorid anesthesia, (50) 1555
  for fractured arm, (82) 632
  for lavage of bladder, (70) 264
  for orthodiagraphic transillumination, (72) 1380
  for providing visitors with view and for securing photographs and moving pictures of operations, (38) 1551—ab
  for use in experimental pathology, (102) 869
  home-made, for collecting infant's urine and stools, (64) 1469
  improvised, for extension, transverse and longitudinal, (73) 1287
  irrigating, (68) 1280
  outflow-recording, improved, (43) 1817
  screw, for fractured patella, (87) 1381—ab
Appendicectomy, complicated, method of partitioning off iliac fossa after, (50) 1285—ab
  in chronic appendicitis, remote results of, (40) 953
  interval, are there good objective *reasons for allowing patients to* get up early after? (96) 1288—ab
  lumbar, (57) 81—ab, *1867
  method of, (80) 1110—ab
  necessity for, after perityphlitic abscess, (2) 535—ab
  purse-string suture in, (103) 793
Appendicectomy, treatment of appendix stump after, (38) 791
Appendices epiploicæ, torsion of, (34) 439—ab
Appendicitis, (98) 169, (128) 534, (54) 1279, (88) 1281, (2) 1377—ab
  acute and chronic, (42) 707
  acute, castor oil in, (104) 448—ab
  acute, differences in temperature in axillæ in, (62) 1193—ab
  acute, in children, (14) 1372—ab
  acute, incipient, neutrophile blood picture in, (85) 1288—ab
  acute, operation for, (26) 2006
  acute, suppurative, perforating, complicating typhoid, (27) 1462
  acute, treatment of, by general *practitioner, (4) 1734*
  advantages of early operation in, (107) 1466
  and cholecystitis, hematogenic infection in, (88) 2194
  and gynecologic affections, differential diagnosis between, (82) 1739
  and influenza, (102) 448—ab
  and pericolitis, mucous colitis and, (14) 535—ab
  and peritonitis, treatment of, (100) 632
  and pregnancy, (97) 358
  and surgical kidney affections, arterial blood pressure in, (65) 356
  and trauma, (68) 264, (88) 2194
  ascending infection from, causing abscess of lung, (16) 1549
  aseptic operative technic and postoperative treatment, (76) 2004
  atypical, significance of abdominal pains in and, (75) 625—ab
  blood analysis in, (8) 348—ab, (85) 625—ab, (129) 1640, (44) 1641
  chronic, fixation of movable cecum to relieve, (109) 1383—ab
  chronic, movable cecum as cause of disturbances ascribed to, (74) 1739
  chronic, remote results of appendicectomy in, (40) 953
  cutaneous tenderness in, (19) 795-ab
  diagnosis of, (42) 531, (124) 793
  displacement of appendix simulating, (53) 1822
  etiology of, (159) 1734, (25) 2006
  etiology of, (159) 1734, (25) 2006
  following trauma, (78) 1040
  gangrenous, and early operation, (72) 714
  gangrenous, complicating hernia, *751
  hematuria complicating, (36) 1372-ab
  hernia of appendix, complicated with, (38) 1033
  history of, (108) 1826
  inflammation of Meckel's diverticulum simulating, *2060
  importance of anaërobic bacteria in, (116) 2196
  inflammatory conditions in, abdomen and thorax differentiated from, (79) 169, (80) 441—ab
  inflammatory tumors in abdominal wall following, (69) 2193
  in pregnancy and puerperium, (62) 630
  in women and its importance in gynecology, (62) 538—ab
  intestinal obstruction simulating, (15) 1032
  latent, with symptoms of ileus in young, (103) 2194
  leucocytes in, (85) 625—ab, (29) 1640, (44) 1641
  lymphatic and portal infections following, (62) 441—ab
  medical treatment of, (7) 865
  operation in complicated cases of and cases resembling, (98) 626
  paragastric, (108) 800
  para-appendicitis and periappendicitis, *prognosis* and treatment, (109) 84
  pathognomonic symptom of, not hitherto described, (112) 949—ab
  pathology and treatment, (133) 1820
  perforative, complicating pregnancy, *1310
  perforative, diffuse suppurative peritonitis following, (97) 626
  peritonitis, diffuse, with (4) 260—ab
  peritonitis due to, (2) 2185—ab
  peritonitis following, treatment of, (111) 78
  phlebitis of left leg following, not operated on, (43) 707—ab
  prophylaxis of, (95) 1382—ab
  rectal drainage in pelvic abscess due to, (15) 711—ab
  significance of *left-sided pain in*, (111) 949—ab
  significance of symptoms from viewpoint of urgency of operation, (2) 1111
Appendicitis, signs and symptoms of, (24) 2006
  traumatic, (83) 1110—ab, (138) 1188
  treatment of, at Münsterling, (55) 1822
  unusual cases of, (6) 2000, (56) 2090
  what should general practitioner know and do in? (99) 626
  when to operate for, (109) 1377
Appendicostomy, (40) 445—ab, (93) 793
Appendix abscess, sarcoma of right os *innominatum simulating*, (7) 260
  abscess, treatment of, (3) 870—ab
  and adnexa, differential diagnosis of inflammation of, (78) 539
  and right Fallopian tube, abnormal position of, *1598
  as pelvic organ, (17) 444
  can we diagnose foreign substances in? (53) 2090—ab
  carcinoma of, (38) 1730
  carcinoma of, metastasis to ileocolic glands, (109) 260—ab
  carcinoma, of primary, (45) 167, (156) 171, (108) 260, (56) 355—ab, (31, 32) 439, (34) 707, (22) 795—ab, (37) 1033, (5) 1105, (37) 1730
  carcinoma of, primary colloid, (45) 167
  carcinoma of, primary, and endothelioma, (32) 439
  carcinoma of, primary, and sarcoma, (108) 260—ab
  carcinoma of, primary, in child, (16) 2234
  displacement of, simulating appendicitis, (53) 1822
  disposition of stump of, (120) 1188—ab
  diverticula, false, of, (25) 167
  diverticulum of, (130) 352
  endothelioma of, and primary carcinoma, (32) 439
  fibroid degeneration of, (105) 1037
  hernia of, complicated with appendicitis, (38) 1033
  incarcerated femoral hernia containing, *1154
  palpation of, (111) 177
  perforation, symptoms of, (40) 173—ab
  practical deductions in diagnosis and treatment of infections of, (121) 1188—ab
  questions, *644
  review of work on, (184) 951
  rupture of during operation, (7) 78—ab
  sarcoma of, and primary carcinoma, (108) 260—ab
  stump, treatment of, after appendicectomy, (38) 791
Appetite, attempted analysis of physiologic factor (21) 1111
  loss of, (22) 866
  persistent loss of, in children, curative effect of rest in, *1917
Appliance, Brewis' for use after colotomy, (10) 1820—ab
Apraxia with autopsy, (123) 1553—ab
Aqua regia, nitrites and nitrous acid in determination of mineral constituents of urine, (32) 1278—ab
Argyrol and collargolum, catgut prepared with, (171) 950
  method—silverized catgut, (41) 2089
Arizona Medical Association, sugges*tions for medical legislation*, (87) 1466
Arkansas surgeon, (93) 710—ab
Arm, fracture of, above condyle, treatment of, (73) 2193
  fractured, apparatus for, (82) 632
  fractures of, treatment, (119) 78
  malformations of, (104) 2194
  nerve injuries of, diagnosis and electrical treatment, (22) 1283
  nervous paralysis after injury of, (91) 2194
Armies, principal, of world, individual first-aid packets of, (98) 1733
Arms and brain, aneurism impeding blood supply to, (85) 2009
  and foot, multiple and recurring patches of gangrene on, (41) 173—ab
  and legs, intermittent limping in, (114) 1741—ab
  extraction of, by Mueller's technic, (76) 1824—ab
  nervous disturbances of, in arter*iosclerosis*, (121) 2197—ab
Army and Navy, medical departments of, and relation for war, to American National Red Cross, (106) 1187
  field service, practical portable x-ray equipment for, (86) 169
  importance of learning trade in, (16) 871
  prophylaxis of syphilis in, (54) 81
Arneth's classification of neutrophile leucocytes and its application in *pulmonary tuberculosis*, (22) 2006—ab
Arrhythmia, cardiac, from viewpoint of myogenic theory, (13) 1467—ab
  extrasystolic, diagnostic importance of, (75) 1381—ab
Arrhythmias, cardiac, clinical study of, (30) 1902
  cardiac, diagnosis and treatment of, (78) 1904
Arsenic, action on red corpuscles, (14) 627—ab
  for weak, nervous children, (41) 81
  in experimental nagana, (74) 447-ab
  in skin diseases, *1482
  in skin diseases, abuse of, (95) 259—ab
  in syphilis, (64) 1103
  therapeutic action of, (100) 352
Arsin in rice and etiology of beriberi, (9) 2234
Art, works of, and commerce, effect of bituminous coal smoke on, (8) 1815—ab
Arterial degeneration, spontaneous, in rabbit, *1056
  tension, high, (95) 2189—ab
  tension, high, causes and treatment of, (139) 626—ab
Arteries: See also Artery.
  and nerves, neoplastic infection of, with cancer and cirrhosis of liver, (128) 1914
  experimental disease of, (37) 866
  hyalin production in, (119) 359
  normal and pathologic, (8) 2093—ab
  phenomena in, in aortic valvular insufficiency, (93) 83
  suture of, (44) 797
Arteriosclerosis, (92) 447—ab, (116) 534, (73) 1036—ab
  and atheroma, (36) 1284, (42) 1379—ab
  and sea climate, (88) 176
  and suprarenal lesions, (23) 2089—ab
  arterial and capillary tension in, (58) 1286
  artificially carbonated and oxygena*ted baths in*, (79) 955
  blood pressure in, (27) 1550
  causes and significance, (28) 1278
  hydrotherapy in, (86) 2098
  incipient, artificial hyperemia of brain in, (71) 955—ab
  nervous disturbances in arms in, (121) 2197—ab
  of coronary artery, (74) 1465—ab
  of nervous system, (77) 169—ab
  pathogenesis and treatment, (37) 173—ab
  premonitory signs of, (4) 535
  pulmonary, clinical diagnosis of, (69) 955—ab
  sclerosis of lymphatics corresponding to, (150) 1475—ab
  suprarenals in, (106) 266
  toxic origin of, (42) 712—ab
Arteriovenous intubation, angiosclerotic gangrene and treatment by, (71) 631—ab
Arteritis, septic, in children, (82) 82—ab
Artery, brachial, circular suture of, (104) 1472
  common carotid, ligation of for hemorrhage following quinsy, (45) 81
  common carotid, ligation of, recovery, (151) 353
  coronary, sclerosis of, (74) 1465—ab
  femoral, aneurism of excision of sac, (32) 1821
  innominate, successful ligation of, *1671
  left iliac, ligation of, (33) 790
  posterior inferior cerebellar, occlusion of, symptom-complex of, (73) 533
  pulmonary, dissecting aneurism of, (8) 171
  pulmonary, dissecting aneurism of, following rupture of arch of *aorta, (6) 255—ab*
  pulmonary, embolism of, operation for, (96) 358—ab, (77) 539—ab, (54) 713—ab
Arthritis, chronic, non-tuberculous, etiology of, *890
  chronic, surgery of, (101) 77
  deformans in children, (60) 709
  deformans, multiple, *124
  gonorrheal, (106) 793
  gonorrheal, antigonococcus serum in, *674
  gonorrheal, injections of dead gonococci in, (29) 73-ab, (28) 256-ab
  gonorrheal, treatment of, (13) 530—ab
  obliterative, and intermittent claudication, (5) 710
  of uncertain origin and gonorrheal affections, treatment of, (31) 1967

Arthritis, rheumatoid, (19) 444
  rheumatoid, passive congestion in, (35) 1736, (35) 1736
Arthrodesis of sacroiliac synchondrosis, (3) 789
Arthropathies of acquired syphilis, (8) 1644
Arthroplasty for ankylosis of elbow, (36) 2090—ab
Ascites and tumors of ovary, (8) 710
  death after tapping for, (48) 1555—ab
  from tuberculous peritonitis, retroperitoneal tumor connected with kidney simulating, (2) 1038
  milky, (44) 873—ab
Asepsis and infection, influence of, on Cesarean section, (61) 1648—ab
  what factors are necessary in addition to, to secure healing by primary union? (11) 1729
  in obstetrics (77) 1904
Aspirin in follicular tonsillitis, local use of, (59) 2188
Asphalt and tar workers' epithelioma and chimney sweeps' cancer, (22) 1038
Asphyxia, late, after total ablation of larynx, (79) 1739
Asphyxiation, control of spasms by, (35) 1278—ab
Aspirin, idiosyncrasy to, (85) 955
Association, American Surgical, reminiscences of, (98) 255—ab
Astereognosis and tactile, asymbolia, (48) 1909—ab
Asthma and eczema, (67) 539—ab
  and hay fever and Colorado, (116) 1644
  and pulmonary emphysema, (102) 716—ab
  and thymus, (150) 360—ab
  bronchial, (99) 1187, (31) 1550
  bronchial, and emphysema of lungs, manual mechanical and gymnastic treatment of, (96) 540—ab
  bronchial, and reduction in size of heart, (119) 1290
  bronchial, in children, (60) 874—ab
  bronchial, treatment of, by diet, (20) 354
  in children, etiology of, (89) 715 ab
  origin and treatment of, (90) 265—ab
  outdoor treatment of, (28) 354—ab
  spasmodic, nasal treatment of, (94) 1819
  treatment of, (29) 354—ab
Astigmatism, lenticular, *302
Astragalus, backward and outward subluxation of, with subluxation of cuboid, (64) 356
Astrology in medicine, (122) 178
Asylum, deaf mute diphtheria epidemic in, (160) 1475
  for friendless children, Budapest, (87) 82
Asymbolia, tactile, and astereognosis, (48) 1909—ab
Asystole, fatal in exophthalmic goiter, (52) 535—ab
Atavism and phenomena of Mendel's law, new light on, (90) 876
Ataxia See also Tabes Dorsalis
Ataxia and vertigo complicating chronic suppurative otitis media, (183) 171
  degrees of, in right hemiplegia, (79) 447
  tabetic, treatment by Frenkel method, (97) 531
Atchison County, Kansas, smallpox in, (91) 77
Atelectasis, (124) 85
  embolic (thrombotic), of middle and lower lobes of right lung survival, (2) 1466
Atheroma and arteriosclerosis, (36) 1284, (42) 1379
  arterial, diet to reduce proportions of lime in, (52) 2007
Athletes influence of oxygen inhalations on (25) 1038
Atlas, dislocation of, (32) 74—ab, (49) 75—ab
  fracture of, isolated comminuted, (143) 268
  fusion of, to occipital bone, and manifestation of occipital vertebra, significance of, (25) 1111
Atony, vascular, of surgical shock, production and control of, (5) 1777—ab
Atoxyl and thioglycolic acid, mixture in nagana, (66) 1470
  and trypanocides, (43) 1039
  in malaria, (116) 266
  in sleeping sickness (29) 1378
  in skin diseases *1482
  in syphilis, (119) 442
  in urine, determination of, and course of elimination, (91) 1115
  influence of, on leucocytes, (115) 717
  influencing of malignant tumors by, (3) 797—ab
Atoxyl poisoning, pathology of, (67) 1193—ab
  resistance of trypanosomes to, (80) 539
Atresia, acquired, of introitus and vagina in adult, (13) 795
  complete vaginal, causing convulsions, (69) 1465
Atrophies reflex, necessity for early electric treatment in, (40) 537—ab
Atrophy, acute yellow, in syphilis, (72) 539
  acute yellow, of liver, (113) 170
  and hyperplasia in liver in consumptives, (101) 1472
  idiopathic, of skin, (27) (2094)
  in joint disease, cause of, (118) 1553—ab
  muscular, and scoliosis with infantile paralysis, (43) 1907
  muscular, progressive, (21) 261
  muscular, progressive, bulbar paralysis followed by, (12) 1283—ab
Atropin for incarcerated hernia, (10) 2011
  in gastric ulcer, (116) 1560
  in incipient myopia, (85) 715
  solution, in eye, unusual constitutional effects of, (153) 171
Attention, inability to concentrate adenoids and, (130) 470—ab
Auricle, conduction of impulse to, disturbance in, (59) 2097—ab
Auriculoventricular extrasystoles, auricular fibrillation and paroxysmal tachycardia, (81) 2004
Auscultation, abdominal, as aid in diagnosis, (3) 2234
  importance of making patient cough during, (160) 1037
  vertebral, in diagnosis of bronchial adenopathy, (70) 709—ab
Australia west hydatid disease in, (23) 80
Autodigestion, antipepsin for protection of stomach against, and for gastric ulcer, (68) 1558—ab
Autointoxication, (74) 710, (126) 950, (136) 1111
  gastrointestinal, ethereal sulphates in urine in, (45) 1822—ab
  intestinal, and treatment, (42) 946—ab
  intestinal, with unusual skin manifestations, (105) 1466
  or biliousness, (82) 1552
Automobile injuries, (94) 2195—ab
Autoprotective resources of body, (129) 260
Autopsies, first, at Philippine medical school, (31) 1185
  plea for habitual performance of, (13) 172
Autopsy work, head holder for, (146) 268
  work, importance of in general practice, (55) 2090
Autosuggestion in neurasthenia, (51) 538—ab
Autotoxemia of pregnancy, (61) 2091
Avian hæmoprotozoa of genus leucocytozoon, (33) 1190
Avicenna and Arabian medicine, (145) 534
Axilla, supernumerary mammæ in, (81) 82—ab
Axillæ, differences of temperature in, in acute appendicitis, (62) 1193 ab

B

Babies' dispensary, modern, (144) 1282
Babies, sick, summer camp for treatment of, *715
Baby farms, (21) 707—ab
  personally conducted, (2) 2000—ab
Bacilli See also Bacillus
  carrier, dysentery, (115) 1259—ab
  carriers and transmission of diseases, (35) 1038—ab
  carrier, endemic typhoid from, (77) 1825—ab
  carriers typhoid, *981
  carriers, typhoid, effective periods of, (11) 2235
  diphtheria group of, variability in, (54) 2003—ab
  dysentery, and infantile diarrhea, (50) 76
  dysentery, toxin and antitoxin of, (67) 954
  intermediary, typhoid with, (49) 1555
  lactic acid, (5) 2234
  lactic acid, cultures in nose, throat and ear work, (18) 348
  of human and bovine tuberculosis, (85) 1040
  of Malta fever, morphology of, (142) 1118
  paratyphoid, distribution of, (58) 264
  paratyphoid, resistance of, in dried human stool, (96) 2011—ab
Bacilli, tubercle, advances against, (25) 1190
  tubercle and allied micro organisms, (54) 1552
  tubercle, avian, bovine or human, ocular tuberculin test in guinea pigs infected with, (16) 1901—ab
  tubercle, and tuberculosis in man and cattle, (56) 2096—ab
  tubercle, chronic tuberculous endocarditis with, (58) 1738
  tubercle danger in using cow's milk containing, (2) 2233—ab
  tubercle, derivatives of, (75) 875
  tubercle, derivatives of, as antigen in tuberculosis and infectious diseases, deviation of complement with (106) 1383
  tubercle, experimental absorption of, from digestive tract in Java, (70) 1738
  tubercle, human and bovine, and tuberculosis, (84) 2194—ab
  tubercle, human and other types, transformation of, (1) 2088—ab
  tubercle, in dairy products at Leipsic, (131) 1117
  tubercle in sputum, tuberculosis occurring with and without, (128) 1828—ab
  tubercle, in urine, determination of, (112) 541—ab, (156) 1044—ab
  tubercle, may not drinking water, when contaminated with sewage be medium of transmission of, *389
  tubercle, non acid fast, significance of forms of, in relation to bacillus of leprosy, (45) 1737
  tubercle, of human type, infection with, (32) 866—ab
  tubercle, resistance of, to acids and alcohol, (43) 537
  tubercle, staining of, in tissue preserved in alcohol for 60 years, (105) 1282—ab
  tubercle substance precipitated with iron cutaneous reaction with, and tuberculin (72) 631
  tubercle, tuberculous changes without cooperation of, (85) 1381
  typhoid, pepsin digested, toxic and immunizing action of, (58) 2096
  typhoid, pure culture of, cholecystostomy with recovery of, from gall bladder, (37) 1640
  typhoid, scanty, detection of, (78) 799—ab
Bacillus coli communis, calculation of numbers of, from dilution tests, (77) 1466
  infection of respiratory organs, (106) 877
  infection of urinary tract, (32) 2190
  intestinal or bladder autoinfection with, (104) 1289
  rate of multiplication of, at different temperatures, (51) 2003—ab
  virulence enhancing property of bile in, (68) 1738
Bacillus bulgaricus, fate of, in digestive tract of monkey, (54) 1732 ab
  infections, pseudodiphtheria, and their response to therapeutic inoculations, (106) 869
  influenza, and other organisms in recent epidemic in Boston, (47) 1903—ab
  Klebs Loeffler, isolation of, in eczematous and bullous eruptions, (25) 1820
  lactic acid, in digestive tract, and functional gastric disturbances, (62) 1910—ab
  longus, determination of in feces, and its significance, (95) 176
  of epizootic abortion, biology of, (36) 712
  of gaseous phlegmon, pathogenic importance of, (127) 1474
  of leprosy, significance of forms of non acid fast tubercle bacilli in relation to, (45) 1737
  of mind and its decrees, (20) 439
  of soft chancre, inoculability of, in rabbits' cornea, (113) 1914
  plague, differential diagnosis of, (30) 628
  typhosus, flies as carriers of, (12) 1735
  typhosus modification of Drigalski Conradi litmus lactose agar, for isolation of, (11) 622
  typhosus placental transmission of, (52) 532—ab
  paratyphosus type A, illness caused by, and its pathologic appearances, (129) 1652—ab
Bacteria, action of tears on, (100) 1196
  agglutination of red corpuscles by, (104) 860
  anaerobic importance of, in appendicitis, (116) 2195
Bacteria and leucocytes, contrast staining of, (61) 630
  and sunshine, ([illegible]) 521
  colon aerogenes group of, (112) 869
  dead, phagocytic immunity and, therapeutic injection of, in endocarditis, *1571
  distribution of, in bottled milk and application to infant feeding, (146) 1282
  galvanotropism in, (74) 350—ab
  in milk, methods of determining, (53) 2003—ab
  injected stained, (47) 1555
  pathogenic, latent persistence and reactivation of, in body, (20) 2190
Bacterial count, mathematics of, (59) 1108
  infection, resistance of diabetics to, (26) 1550
  inoculations, (113) 1282
  vaccines, inoculation of, (120) 442
  vaccines in pyogenic processes, (82) 792—ab
Bactericidal action of extract of leucocytes of rabbits and guinea-pigs, (61) 1039
Bacteriemia, puerperal, (77) 447—ab, (52) 867—ab
Bacteriologic technic, (92) 1912
Bacteriology and epidemiology in fight against typhoid fever, (58) 446
  and pathology of acute rheumatism, (128) 1553
  and pathology of plague, (68) 1818
  and prognosis, (96) 83
  intestinal, fermentation tube in, (53) 1731
  of acute rheumatism, (40) 2002
  of puerperal uterus, (38) 866—ab
  practitioner's need of, (123) 793
Bacteriolysins, hemolysins and opsonins, (97) 716
Bacteriotherapy See also Vaccine Therapy
  advancements in eye, ear, nose and throat work through, (68) 1732
Balance restoration of, in regard to space in thorax after extirpation of one lung, (54) 1909
Balneologic courses, effectual, (111) 1116
Balneotherapy, importance of minimal values in, (94) 1382
  in ear affections, (84) 715
  in heart and vascular affections resulting from metabolic disturbances, (85) 176
Bandage, pressure, for leg, (86) 77
  roller, flannel, in umbilical hernia in infant, (40) 440
Bang's method for titration of sugar, (75) 264
Banks, W M, his life and works, (8) 2005
Banti's Disease See Splenomegaly
Barium chlorid, action of, on fowl's muscle, (45) 1817
Barlow, Columbus, memoir of, (62) 76
Barracks, portable shed, (114) 1560
Bartholinitis, acute and chronic, (49) 1285—ab
Bath treatment at Mt Clemens for nervous patients, (108) 442
  continuous, in surgery, (93) 265 ab
Baths, air, in tuberculosis, (101) 1560
  and exercises in treatment of heart disease, (75) 1036—ab
  artificially carbonated, (96) 876
  artificially carbonated and oxygenated, in arteriosclerosis, (79) 955
  artificial sulphur, (97) 876
  brine and seashore in tuberculosis of glands, (54) 445
  carbonated mineral, and auxiliary exercises, in chronic heart diseases, (77) 1110—ab
  hot, at Hot Springs, (52) 1817
  incandescent light, in chronic bronchial affections, (72) 798—ab
  mineral, Mount Clemens, physiologic action of, (8) 706
  moving air, and light, in general affections, (72) 1470—ab
  of Schinznach, Switzerland, (22) 871
Battlefield, wounded on, care of, in modern war, (52) 623
Beard's theory in crucible of test, (8) 944
Beauperthuy, Dr Louis Daniel, and yellow fever, (6) 72—ab
Bedbug, preservation of plague bacillus in, (51) 415
Bee stings and rheumatism, (2) 1644—ab
Belladonna and aconite, physiologic antagonism between, (13) 951—ab
  poisoning, *1066

- Bengal, puerperal diarrhea of, (5) 2005
- Beriberi, (79) 2004
  - etiology of, and presence of arsin *in rice*, (9) 2234
  - laryngeal disturbances in, (54) 174
- Berlin, microsporon epidemic at, (105) 358
  - mortality from tuberculosis in, causes of decline of, (40) 712-ab
  - postgraduate study in, (26) 866
- Beurmanni, sporotrichum, epididymitis, orchitis and vaginalitis from, (43) 1737
- Bichat: his life, researches and character, (63) 709, (72) 1035
- Bier cup, application of, in recent empyemas, *572
  - Hyperemia: See also Hyperemia constriction, Hyperemia suction, etc.
  - Klapp suction method in suppurations of neck, (53) 257
  - *method for practitioners*, (15) 795
- Bile agar cultures, in diagnosis of typhoid, (95) 447
  - channels and gall bladder, inflammation of, without gallstones, (96) 448—ab
  - congestion of, disturbances in portal circulation from, (135) 267
  - duct, common, and ampulla of Vater, melanotic sarcoma of, (106) 260—ab
  - duct, common, cause of sudden fall in blood pressure while exploring, (35) 1731—ab
  - duct, common, complete obstruction by melanosarcoma, (129) 78
  - duct, common, consequences of stenosis or obliteration of, (131) 1043
  - duct, common, melanoma of Vater's diverticulum and lower portion of, causing complete obstruction, (152) 870
  - duct, common, removal from, of 2½ ounce calculus, (32) 2089
  - duct, common, resection of, (142) 359
  - duct, common, ruptured, operation, recovery, (54) 1469
  - duct, intrapancreatic segment of, a landmark in biliary ducts, (26) 2186
  - ducts and gall bladder, syphilis of, (59) 1903
  - ducts, surgical anatomy of, (64) 1286—ab
  - hemolytic action of, and its inhibition by blood serum, (45) 1464—ab
  - in experimental production of colitis *in animals*, (40) 256
  - media and Smith's solution, use of, (76) 1466
  - *pigment*, determination of, and its clinical importance, (122) 359
  - virulence-enhancing property of, in typhoid and colon bacilli, (68) 1738
- *Bilharziasis among women and girls in Egypt*, (17) 1906
- Biliary, surgery, (70) 792
- Biliary-tract and gall bladder, pathologic anatomy of, (145) 1188
  - and pancreas, jaundice due to disease of, (15) 1106
  - difficulties and dangers in operations on, (59) 1035—ab
  - inflammations of, medical treatment of, (3) 1900—ab
  - results of operations on, at Hochenhogg's clinic, (85) 715
  - results of surgery of, (162) 171
  - shovel retractor for operations on, (80) 2097
  - traumatisms of, operative treatment, (51) 1285—ab
- Biliousness or autointoxication, (82) 1552
- Bilirubin content of pneumonic sputum, (113) 717
- Binders, infant, dangers and evil effects of, (11) 172—ab
- Bi-nitrobenzin poisoning, chronic, unusual case of, (8) 1189
- Biology, what subjects can be pracically included in year's work in? (19) 707
- Bionomics of fleas, (27) 628
- Birth, edema persisting since, (28) 872
- Bismuth carbonate, intoxication with bismuth subnitrate and its substitution with, (123) 1042
  - in diagnosis of conditions of esophagus and stomach, (16) 1283
  - poisoning, (73) 1558, (4) 2234
  - poisoning, fatal, (116) 2012—ab
  - salts and functions of stomach, (18) 1283
  - subnitrate, intoxication with, and its substitution with bismuth carbonate, (123) 1042
- Bismuth subnitrate, nitrite poisoning from, (73) 1558
  - vaselin paste injections, (20) 1372
- Biuret test for pepsin in stomach content, (169) 87
- Bladder affections, retention catheterization in, (182) 87—ab
  - and prostate, cysts near, (83) 1471—ab
  - and uterus, traumatic rupture of, during labor at term, *1406
  - and vagina during pregnancy, histologic peculiarities of, (113) 1117
  - apparatus to collect urine after operations on, (75) 1114
  - carcinoma, radical treatment of, (33) 1372—ab
  - carcinomatous degeneration involving one-third of, with dermoid cyst of ovary, (110) 1110
  - extroversion of, implantation of ureters into rectum for, in woman, by modified Peter's operation, (9) 1820
  - female, (91) 1819—ab
  - exstrophy of, apparatus for compressing pelvis in Trendelenburg's operation for, (99) 358
  - extirpation of, (42) 1641
  - hernia, (75) 2097—ab
  - impaction of pubic arch in, fractures of pelvis and femur and trauma of kidney, recovery, (87) 948—ab
  - involvement, postdiphtheritic multiple neuritis with, (13) 255
  - lavage, apparatus for, (70) 264
  - method of dissolving foreign bodies in, (112) 717—ab
  - neuroses, (68) 76—ab
  - operations, simple instrument for, (111) 717
  - or intestinal autoinfection with colon bacillus, (104) 1289
  - or prostate, advanced cancer of, bilateral ureterostomy in, (16) 443—ab
  - prolonged irrigation and drainage of, after prostatectomy, (80) 948—ab
  - rupture of, traumatic, (59) 1642—ab
  - sphincter, cure of insufficiency of, by drawing forward uterus, (138) 1117
  - stone, and prostatectomy, (70) 258
  - stone, nucleus of which was revolver bullet, (9) 951
  - stone, with intermittent pneumaturia for 3 years and subsequent formation of fecal fistula, (111) 260—ab
  - stone, x-ray diagnosis and treatment of, (157) 360—ab
  - stones, (27) 531, (90) 1186, (75) 1642, (6) 2189
  - stones, renal origin of, *885
  - suture, indications and results, (46) 797
  - tuberculosis, (18) 1730, (23) 1901—ab, (70) 2003—ab
  - tumors, (134) 626, (15) 2186—ab
  - tumors, in children, (76) 1912—ab
  - tumors, transperitoneal removal of, (41) 791—ab
  - wounds, gastric and duodenal ulcers secondary to, (105) 260—ab
- Blastomyces, cases probably mycotic, but not evidently due to, *1868
- Blastomycetes in blood, (139) 1744—ab
- Blastomycosis, resembling bone tuberculosis, (117) 1553—ab
  - systemic, etiologic, pathologic and clinical features; and coccidioidal granuloma, (17) 944
- Bleaching pigmented tissues, improved method of, (125) 1282
- Blepharitis, rational treatment of, (99) 1037
- Blindness following injection of protargol in lachrymal sac, (101) 442
- Blood affections, treatment of, and regeneration of blood, (84) 955
  - *alkalinity of*, (52) 168
  - amount of, in human beings, (68) 446—ab
  - analysis in appendicitis, (8) 348—ab, (85) 625—ab, (129) 1640, (44) 1641
  - and iodin, viscosity of, (53) 873—ab
  - and other body fluid, sodium chlorid content of, clinical method of determination, *478
  - and urine, suprarenal products in, (93) 358
  - anemia from deficient production of, (46) 713
  - aneurism impeding supply of, to brain and arms, (85) 2009
- Blood, arterial, attempts to resuscitate animals by passing through heart and central nervous organs, (113) 2196—ab
  - blastomycetes in, (139) 1744—ab
  - carbon monoxid in, determination of, (89) 176
  - cells, origin of, (127) 78
  - changes in abdominal cases requiring immediate operation, (66) 1642
  - circulating, multiplication of piroplasma bovis and piroplasma pithceci in, compared with piroplasma canis, (47) 1039
  - clinical importance of determination of antitrypsin in, (61) 1380
  - coagulating property of, importance of proteolytic leucocyte ferment in, (96) 2099—ab
  - composition of, in relapsing fever, (125) 359
  - content when water is ingested, (64) 2096
  - corpuscles and histologic modes of destruction of, rôle of spleen in production of blood pigment, (27) 796
  - corpuscles, bacterial agglutination of, (104) 800
  - corpuscles, influence of morphin on resistance of, (100) 799
  - corpuscles of foreign species, sudden death following injections of, (53) 1903—ab
  - corpuscles, red, effect of heated serum on rouleaux formation of, (46) 1464
  - corpuscles, red, mica plates for research on, (122) 1474—ab
  - counting apparatus, devices for increasing usefulness of, (190) 171
  - count, differential, in the diagnosis of empyema in children, (109) 949
  - culture studies, occurrence and significance of negative results in, (37) 1902—ab
  - cultures in typhoid, (33) 866—ab
  - direct transfusion of, and suture of bloodvessels by vascular anastomoses, (25) 1278
  - disease and sarcoma, (85) 2004—ab
  - diseases, (123) 260
  - diseases, transmissibility of, (103) 1740
  - dust, (105) 541
  - donor's, adaptability to receiver's in transfusion, (53) 947—ab
  - examination, diagnosis of African tick fever from, (33) 1185—ab
  - examination, in exophthalmic goiter, (68) 1286—ab
  - examination in surgical diagnosis, (47) 257
  - examination of, in peripheral vascular provinces with circulatory disturbances, (134) 1117—ab
  - examinations, interpretation of, (12) 1639
  - ferricyanid method for determining gas in, (99) 83
  - findings of pernicious type in severe *anemia*, *1973
  - formed elements of, influence of phosphorus intoxication on, (102) 83
  - guaiac test for, (69) 714
  - hematin and iron in, proportions of, (67) 2096
  - importance of antitrypsin in, (55) 797
  - in acetonemia, periodical in children, (112) 1289—ab
  - in acromegaly, (86) 1288—ab
  - in ankylostomiasis, (7) 794
  - in exophthalmic goiter and thyroidism, (70) 1558—ab
  - in gonorrhea, (125) 1290
  - in infectious disease, leucocytic changes in, (71) 174
  - in Malta fever, (154) 360
  - in meningitis, (101) 177—ab
  - in myxedema, (124) 359
  - in pellagra, experimental, (113) 1383
  - in pernicious anemia, (36) 952—ab
  - in puerperal infection, (75) 82—ab, (48) 1113, (111) 1473—ab
  - in splenic anemia and splenectomy, (30) 866—ab, (16) 1462
  - in trypanosome infections, acidity and alkalinity of, (41) 1038—ab
  - in typhoid, (105) 800
  - in typhoid, determination of antigens and antibody in, (65) 1738
  - in urine, determination of, by spectroscopic-chemical methods, (101) 716
  - in urine, hydrogen dioxid test for, 988—ab
  - leukemic, chemical composition of, (113) 1826
- Blood, method for measuring clotting time of, (66) 1109
  - method of expelling, from lower half of body, (113) 177—ab, (90) 1472—ab, (121) 1742—ab
  - modifications in, in preventive hemostasis with Esmarch-Silvestri technic, (125) 178
  - mononuclears of guinea-pigs, Kurloff's bodies in, and their protozoic nature, (62) 1823
  - morphologic study of, at bedside, (68) 174—ab
  - *morphology of, in pertussis*, (36) 1463—ab
  - occult, in stools and stomach contents, in gastrointestinal affections, (97) 83—ab
  - of hydrophobia patient, (3) 78-ab
  - of miner killed in explosion in bituminous coal mine, examination for carbon monoxid in hemoglobin of, (64) 1109
  - picture, neutrophile, in incipient acute appendicitis, (85) 1288—ab
  - picture, neutrophile, in infectious diseases, (149) 1475
  - pigment, histologic modes of destruction of blood corpuscles and rôle of spleen in production of, (27) 796
  - pneumococcus in, in pulmonary tuberculosis, (60) 1823—ab
  - producing organs, histologic changes in, in pernicious anemia, (92) 176
  - production and artificial hemolysins, (112) 1383—ab
  - production, extrauterine, (91) 176—ab
  - putrefying, viscosity of, (151) 360
  - *regeneration, and treatment of* blood affections, (84) 955
  - retrogression to embryonal conditions in, (62) 174
  - ring-bodies in, in anemia, (72) 174
  - serum, action of drugs on, (84) 356—ab
  - serum, antitrypsin and antipepsin in, (145) 1475
  - serum, antitryptic power of, in cancer, (89) 83—ab, (63) 714
  - serum, hemolytic action of bile and its inhibiton by, (45) 1464—ab
  - serum, influence of on proteolytic leucocyte ferment, (103) 81
  - serum in malignant disease, cytolytic factor occurring in, *915
  - serum, modifications in, from heating it, (63) 446
  - serum, normal, pro-infective action of, (40) 1464—ab
  - serum of typhoid carriers, complement-binding substances in, (145) 86
  - serum, phagocytosis in, when mixed in vitro with horse serum, (5) 951—ab
  - specific gravity of, value of taking during saline transfusion in cholera, (36) 2191—ab
  - stain, improved technic for Romanowsky, (68) 954
  - stains medicolegally considered, (45) 1185
  - streptococcus aggressins in, in puerperal sepsis, (89) 799
  - study of, by general practitioner, (98) 1382
  - transfusion, new method of, (14) 2089—ab
  - transfusion of, in the transplantable lymphosarcoma of dogs, (91) 869
  - treatment causing variations in calcium content of, (28) 945
  - tuberculosis immune, treatment of tuberculosis with, (76) 1471—ab
  - variations in calcium content following therapeutic measures, (28) 945
  - vessel anastomosis by rubber tubing, (18) 1550—ab
  - vessel surgery, physiologic aspects of, *1658
  - vessels, action of drugs on, (65) 2003
  - vessels, cerebral disease of problems and diagnosis, *179
  - vessels and organs, permanent results of transplantation of, (79) 2194—ab
  - vessels, experimental pathology of, (104) 177
  - vessels, heart and lungs, diseases of, (97) 1281
  - vessels, large, and diameter of heart, percussion of changes in, in fevers, (130) 1562—ab
  - vessels, large, clamping of, near heart in operation for pulmonary embolism, (76) 2097—ab

Blood vessels, large, necrosis of limbs after ligation of (50) 707—ab
  vessels, pulmonary, abnormalities of, (141) 1111
  vessels, pulsating in throat, (133) 1117
  vessels, pulsating, in worms physiology of, (51) 1108
  vessels, serous coat of, compared with peritoneum, (32) 790—ab
  vessels, suture of, and direct transfusion of blood by vascular anastomosis (25) 1278
  vessels, transplantated drainage of ventricles of brain by, (38) 2095—ab
  vessels, transplantation and anastomosis of, (141) 268
  vessels, uterine and ovarian in dogs, hemorrhage following section of, and its bearing on ruptured pregnancies, (31) 1816—ab
  viscosity, *1653, (79) 1825, (65) 2096
  viscosity, changes in at high altitudes, (139) 85
  viscosity, importance of determination of, (66) 2097—ab
Blood pressure and obstetrics, (26) 945—ab
  and polycythemia, (80) 2009—ab
  apparatus for graphic registration of, (73) 1193
  arterial in surgical kidney affections and appendicitis, (65) 356
  cause of sudden fall in, while exploring common bile duct, (35) 1731—ab
  clinical estimation of, by finger and hemomanometer, (10) 1644
  *factors in estimation of, *1000*
  general principles regulating, (50) 873
  high arterial and retinal hemorrhages, (104) 1733—ab
  high from renal changes in hemorrhage into pons, (51) 1468
  in arteriosclerosis (27) 1550
  in brain diseases and injuries (81) 1818
  in eclampsia, (35) 256 ab
  in chronic nephritis (104) 84
  in man, its measurement and regulation, (2) 1735—ab
  in neurasthenia, (4) 626—ab
  in tuberculosis at high altitude (18) 944—ab
  increased and cerebral hemorrhage, (47) 2090—ab
  lowering reflexes from irrigation of chest in empyema, (26) 1816—ab
  measurement of comparison of technics for (78) 447
  measurement of, in chronic nephritis (68) 1911—ab
  normal and pathologic association of age and incipient cataract with *400
  obstetric importance of, and its relation to work of heart, (116) 177
  systolic and diastolic, measurement of, (98) 1041—ab
  systolic, measurement of, (46) 1285—ab
  venous, instrument for determination of (47) 1464
Body elevator and support for operations on the abdomen and trunk, *196
  production of agglutinins in, by inoculation of substances other than products of bacterial origin, (157) 870
  weight and heart weight in various animals, the ratio between (156) 870
Bolus in diphtheria (100) 176
Bone affection, Köhler's, etiology of, (125) 2197
  cysts osteitis chondromata and similar affections (80) 632
  free, plastic operations and attempts at transplantation of joints and stiffening joints (79) 1040—ab
  hyoid caries of, *1425
  infections non tuberculous, about hip joint, (14) 1184—ab
  lesion Roentgenologic discussion of, (80) 77
  marrow atrophy of, experimental production of, with typhoid toxin, (66) 174
  marrow sclerosis of, spleen as hemato plastic organ, as exemplified in case of splenomegaly with (101) 870
  neoformation of at distance from periosteum (99) 2[illegible]
  regeneration from periosteum (105, 77
  surgery motor fo (30) 1034
  temporal, (57) 441
Bone, temporal, surgical anatomy of, and its bearing on spread and cure of suppuration, (137) 1906
  temporal, suppuration of, (137, 139) 950
  temporal, suppuration of, treatment other than surgical, (60) 1280
  tuberculosis, (68) 948—ab
  tuberculosis blastomycosis resembling (117) 1553 ab
  tuberculosis surgical, (47) 2188
Bones and joints affections of, tuberculous origin of, in man and dog causing hypertrophy, (47) 1822
  and joints, syphilis of, (57) 947
  and joints tuberculosis of, opsonic therapy in, (32) 256
  in children undescribed affection of, (116) 1474—ab
  long, extension treatment of fractures of shaft of, (37) 1190—ab
  long, fracture of, (55) 1185—ab
  long fractures of, necessity for end to end apposition in,(31) 1737—ab
  long, hydatid disease in, (71) 1114—ab
  maxillary, compound comminuted fractures of, *1697
  metacarpal, fractures of (30) 1736
  of forearm, direct and internal splintage by operation in fractures of, (37) 1379—ab
  of leg, shortened lengthening, by operation, (42) 256
  Paget's disease of, (70) 1911
  plastic operations on, (75) 1040—ab
  supernumerary, in wrist and ankle and sesamoid bones, in Roentgen picture, (130) 85
  temporal surgery of, (139) 2198
Books, disinfection of (61) 1108—ab
Borax in epilepsy, (91) 1825
Bothriocephalus latus, (13) 73
Botryomycosis in man, (56) 81
Bougies for dilation of infundibulum (23) 1467
Boulder Lodge Sanatorium, light treatment of disease at, (9) 255
Bowel, gunshot wound causing rupture of, without damage to peritoneum, (157) 171
Bowleg, spontaneous correction of, greater tendency to, than of knock knee, (106) 77
Boy of three, ileocolitis in, complicated by tapeworm, (111) 1282
Brachial plexus, traumatic paralysis of unilateral paresis of diaphragm with involvement of sympathetic due to, (77) 1381
Brachydactylia, congenital ankylosis of fingers with (81) 1287
  hereditary, (8) 1554
Brain abscess, *667
  abscess and pyonephrosis, *756, (108) 1466
  abscess diagnosis of, (91) 632—ab
  abscess, extradural (129) 870
  abscess of otitic origin, (9) 627, (88) 793, (138) 950
  abscess, otitic, diagnosis of, (93) 2092
  abscess, partial auditory and visual aphasia with object blindness due to, (82) 869
  abscess with chronic purulent otitis media (34) 1551
  affections, fatal, without apparent lesion (91) 1559
  affections, focal localization of, importance of motor disturbances in external ocular muscles for, (84) 447—ab
  and arms, aneurism impeding supply of blood to, (85) 2009
  and eye complications of anemia and relationship to thrombosis, (26) 1378—ab
  and spinal cord ocular manifestations of organic diseases of, (97) 1643
  aneurisms of vessels of, (2) 1189
  anomalous and pathologic conditions of vascular system of, (73) 1186
  artificial hyperemia of in incipient arteriosclerosis (71) 955—ab
  blood pressure in disease and injuries of, (81) 1818
  centers for taste and smell, and uncinate group of fits *879
  complications of otitic origin (19) 531, (62) 624, (77) 625 (144) 676—ab (9) 627 (88) 793 (125) 870 (138) 950, (131) 1734, (27, 28) 1820 (88) 2092
  concussion, (24) 531—ab
  concussion contusion and compression ocular symptoms of (85) 1466
  cortex structure of (78) 2009
  diagnostic phenomenon in diseases of *461
Brain, diagnostic puncture of, (64) 714
  disease, headache of, (63) 1035—ab
  findings in infants with inherited syphilis, (80) 1912—ab
  glioma of, (8) 255
  glioma of, involving pia mater, (7) 2185
  hemorrhage, extensive, life after, *2101
  hemorrhage in, operation for, (76) 76
  hernia, anatomy of, (55) 1556
  influenza, (9) 79—ab
  inhibition of, and motor function, *183
  neuroglioma gangliocellulare of, (10) 438
  non penetrating trauma of, operation for, (34) 790—ab
  puncture, (12) 1554, (5) 1820—ab
  rheumatism of, (131) 717—ab
  sarcoma, successful removal of, in region of left sensory motor convolutions, (88) 358
  surgery (63) 630—ab
  symptoms in hydrocephalus, *1933
  syndrome cured by antisyphilitic treatment, (127) 717—ab
  syphilis, diagnosis and treatment, (97) 1036
  traumatism of, (74) 1818—ab
  tuberculosis with paralysis of both third nerves, (37) 1821
  tumor, (71) 1375—ab
  tumor, autopsy record, (14) 1032
  tumor in frontal lobes, with symptoms simulating paresis, (73) 792
  tumor in temporal lobe, *879
  tumor localized and removed, symptomatology of lesions in parietal lobe (34) 1108—ab
  tumor successful removal of, (98) 1196
  tumor, symptomatology of, (81) 1825
  tumor, three cases, *1057
  tumors, diagnosis of, (155) 86—ab
  tumors in children, (83) 82—ab
  tumors, ocular symptoms of, (85) 1036—ab
  tumors, pathology of (43) 953—ab
  tumors, surgery of, (114) 541—ab
  vascular lesions of right side, and progressive, left sided hemiplegia due to gliosis, (70) 1035—ab
  ventricles drainage of, by transplanted blood vessels, (38) 2095—ab
  ventricles, subcutaneous drainage of, in hydrocephalus, (78) 356—ab
  vessels disease of, with problems in diagnosis *179, (155) 950—ab
Branchial cleft, first, sinus of, (33) 1033—ab
Brazil climate and diseases of, (27) 712
Bread, sawdust, in treatment of habitual constipation (85) 539—ab
Breast abnormal secretion from, in non pregnant women, *1839
  cancer indications for operation (22) 1190—ab
  cancer operation and after treatment (98) 876
  cancer, permanent cure of, (58) 713—ab
  cancer of, recurrence at late period after operation for, (32) 1731—ab
  cancer treatment of, (52) 1279
  conditions that require removal of child from, (34) 167—ab
  eczema of nipple with carcinoma of, (40) 1555
  feeding importance of, for reduction of infant mortality, (107) 1473—ab
  milk secreting cyst in, (144) 1744—ab
  nursing influence of on infants in first few days after birth, (114) 877
  plastic reaction of, and its bearing on incision of breast tumors, (16) 79
  tumors in childhood, (31) 2090—ab
Breasts carcinoma of, (46) 1468—ab
  hypertrophy of in exophthalmic goiter in man of 52, (96) 956
  pendulous mastopexy for, (85) 1381
  supernumerary, in axilla, (81) 87—ab
Breathing exercises in chronic bronchitis, (85) 356—ab
  tract, resistant, (13) 1901
Bristol Royal Infirmary, early history of (47) 1468
British Medical Journal, educational number, (1) 1189
Bromid excretion of, by kidney, (61) 550
Bromin, pharmacology of, (75) 2009
Bromural (3) 165 (5) 255
  isopral and chloral hydrate comparative study of dosage and effects of, on cats, *457
Bronchial affections outdoor treatment of, (28) 354—ab
  and mediastinal glands enlarged, determination of (81) 715—ab
  asthma, electric treatment of, (82) 2194—ab
  asthma in children, (60) 874—ab
  glands and apices, tuberculosis of, x ray diagnosis in, (46) 1192—ab
  stenosis and bronchiectasis, relation of, (144) 1111
Bronchiectasis, (36) 1646
  early diagnosis and treatment, (102) 2011
  in fetus, (50) 81
  and bronchial stenosis, (144) 1111
Bronchitis, acute fibrinous, (61) 1035
  acute, peculiar phases of, (64) 76
  chronic, cure of, by breathing exercises, (85) 356—ab
  chronic, incandescent light baths in, (72) 798—ab
  chronic, inhalation of fumes of nitric acid in, (154) 1475—ab
  subacute, (139) 442
  suppurative, bacteriology of, (100) 541
Bronchopneumonia, (149) 1906
  and lobar pneumonia, symptomatology and diagnosis of, in children, (46) 623
Bronchoscope and esophagoscope, for location and removal of foreign bodies in air and food passages, (132) 1734
  esophagoscope and gastroscope, use of, (16) 790—ab
Bronchoscopy and esophagoscopy, (102) 793
  laryngoscopy and esophagoscopy, (26) 1467
Bronchus, left, foreign body in, (9) 1189
Brooklyn's contribution to medical progress, (107) 949
  hospital dispensary, work in, first surgical division, (6) 1729
Budapest Asylum for friendless children, (87) 82
Buffalo Academy of Medicine, activities and interests of, (106) 1282
Bugs, extirpation of, (146) 1118—ab
Bullet, revolver, as nucleus of vesical calculus (9) 951
Bundle of His, Adams Stokes' disease with induration in, (57) 630—ab
Bunion, surgical treatment of, (49) 1034
Buphthalmos, (128) 1188
Burns and scalds, (121) 1734
  and scalds, management of, (32) 354
  in childhood, arrested local development from, (50) 355
  treatment of, (92) 799—ab
Bursitis, (16) 1639—ab
  subacromial, or periarthritis of shoulder joint, (16) 1639—ab, (17) 1730—ab, (4) 1815—ab, (17) 1901—ab (17) 2001, (5) 2088, (19) 2234—ab
  subdeltoid, (16) 1639—ab, (17) 1730, (4) 1815—ab, (17) 1901—ab (17) 2001, (5) 2088, (19) 2234—ab
Button, galalith intestinal, (61) 356

C

Cactus grandiflorus as cardiac remedy, (60) 2188
Caffein free coffee, (87) 2009
Caisson Disease See Compressed Air Illness
Calabria, antimalaria campaign in, (155) 1475
Calcaneo cavus, paralytic, operation for, (97) 77—ab
Calcaneum, and tibia, amputation above malleolus, with osteoplastic operation on, (46) 1822
  tarsectomy retaining, (72) 1039
Calcium chlorid, aortic aneurism relieved by, (37) 1555—ab
  content of blood variations following treatment, (28) 945
  hypochlorite, for sterilization of potable waters, (14) 2235
Calculi, formation of, after prostatectomy, (94) 2092
  of Bladder See Calculi Vesical
  renal, (61) 1556
  renal, and pyonephrosis in pregnant woman, induced labor, nephrectomy, recovery, (18) 1639
  renal and ureteral, x ray diagnosis of, (80) 77, (67) 169—ab, (19) 1283
  renal fibrinous (35) 1372
  renal, nephrolithotomy, subsequent nephrectomy on account of hemorrhage, (8) 951
  renal, pathologic, clinical and surgical phases, (58) 1642
  renal, temporary hemostasis during removal of, (110) 2009—ab

Calculi, production of, in upper urinary passages after spinal injury, (70) 2097
  ureteral, (31) 167—ab, (149) 442, (13) 622, (104) 949
  vesical, (27) 531, (90) 1186, (75) 1642. (6) 2189
  vesical, renal origin of, *885
  vesical, x-ray diagnosis and treatment of, (157) 360
Calculus and tuberculosis, results of operation on kidney for, (143) 353—ab
  biliary, large, removed from common bile duct, (33) 2089
  renal, (59) 2003
  renal, diagnosis and treatment of, (140) 353—ab, (106) 1905—ab
  renal, impacted, symptoms, diagnosis, treatment, (65) 258
  tuberculosis of kidney, perinephric abscess and, (141) 353—ab
  vesical, nucleus of which was revolver bullet, (9) 951
  weighing two pounds, successful removal of, (6) 710
California, plague in, and antiplague campaign, *1010
Calmette's Ocular Reaction: See Tuberculin.
Calomel and podophyllin habit, (122) 793
  insufflation of, in nose in syphilis, (79) 264
  ointment, syphilitic prophylaxis by use of, (13) 1639
  salve, failure of, to protect against syphilis, (90) 176—ab
Camp. summer, for sick babies, *745
Camphor water and cherry laurel water in collyria, (143) 170
Camps and hospitals, consumptive, are they menace to neighborhood? (149) 360—ab
Canada, medicine in, (143) 534, (106) 1644
Canal of Cloquet, (39) 946
Canal Zone, three years medical and sanitary record in, (8) 78—ab
Cancer: See also Carcinoma.
  advanced, of bladder or prostate, bilateral ureterostomy in, (16) 443—ab
  analogy between spontaneous recoveries from, and specific immunity induced by x-ray irradiations of lymphatic glands involved, (9) 1735
  and cirrhosis of liver, with neoplastic infection of nerves and arteries, (128) 1914
  and tuberculosis, descendants of persons who have died of, (100) 1382—ab
  and tuberculosis, hemolysis in, *2036
  antitryptic power of blood serum in, (89) 83—ab
  Beard's theory of, (8) 944
  cataphoric sterilization in, (168) 950, (93) 1377. (123) 1820
  cells and other cells, explanation of difference between, (163) 1476
  cells, apparent anaplasia of, (117) 877
  chimney-sweeps', (22) 1038
  clinical notes on, (89) 447—ab
  cytologic factor in blood serum in, *915
  early, about pylorus, (110) 949
  etiology of, (34) 712, (40, 41) 797—ab
  excision of rectum for, (24) 1107—ab
  formic acid derivatives in, (6) 1467—ab
  functions and relations of syncytium to toxemia of pregnancy and, (50) 947—ab
  hemolytic reactions in, (46) 1903—ab
  heredity in, (3) 2190—ab
  in Travancore, South India, (12) 2005—ab
  inoperable, (1) 1371—ab
  inoperable, palliative treatment of, (6) 2005
  inoperable, treatment of, (68) 441—ab, (2) 1553—ab
  is it a disease of locality? (72) 2003—ab
  lightning treatment of, (108) 541 ab, (52) 713—ab, (115) 1474—ab, (75) 1739, (97) 2011
  Mammary: See of Breast.
  mouse, transplantable, resistance of, to freezing with liquid air, (55) 2003—ab
  new lymphatic vessels in, in metastases of round-celled sarcoma, (145) 1111
  non-relationship of active cell division to prognosis, *910
Cancer of appendix, primary: See Carcinoma
  of breast, diagnosis and treatment of, (9. 10) 1554
  of breast; indications for operation, (22) 1190—ab
  of breast, late recurrence of, (32) 1731—ab
  of breast, operation and after-treatment, (98) 876
  of breast, permanent cure of, (58) 713—ab
  of breast, treatment of, (52) 1279
  of cervix, immediate mortality of abdominal hysterectomy for, (14) 2190
  of cervix, results of vaginal ablation of, (110) 1383—ab
  of cheek involving jaw, method of operation in, (31) 1730—ab
  of colon, (4) 1553
  of epipharynx, primary, (64) 1280
  of esophagus, (20) 1190
  of female genital organs, treatment of, (39) 354—ab
  of gastrointestinal tract, (115) 78
  of intestine, and foreign bodies, (57) 2008—ab
  of large intestine, (130) 442
  of large intestine, colectomy for, (47) 629—ab
  of liver and spleen, cytologic examination of case of diagnosed clinically, (141) 1734
  of liver or kidney in small children, (97) 1472
  of mouth and tongue, (30) 1730—ab
  of mouth, in southern India, (14) 79—ab
  of nose, (97) 1532
  of ovary with other tumors, (80) 82
  of pancreas, (45) 1908—ab
  of pylorus; gastrectomy; gastrojejunostomy; no recurrence, (110) 949
  of rectum, (77) 948, (5) 1031, (14) 1106, (9) 1183, (4) 1276—ab
  of rectum, high, technic for removal of, in men, (91) 1471
  of rectum, pregnancy and labor complicated by, (42) 1284
  of rectum, radical cure of, improved technic for, (53) 1279
  of rectum, selection of method of operating in, (16) 1554
  of rectum, treatment of, (47) 440
  of rectum with anuria, (58) 2008—ab
  of sigmoid and rectum, surgery of, (27) 167—ab
  of stomach: See Gastric Cancer.
  of testicle, condition of glands in, (42) 873—ab
  of tongue, excision for, (74) 76
  of uterus: See Uterine.
  operations, abdominal, what can be learned from cystoscopy in regard to indications and prognosis for? (116) 877—ab
  operations and danger of cancer infection, (30) 1821
  operations, technic of, and danger of cancer infection, (23) 1554
  patients, antitryptic power of human blood serum in, (63) 714
  plastic resection of breast and, (16) 79
  problem, modern aspects of, (43) 256—ab, (26) 531
  propaganda against in Uruguay, 203—ab
  proteolytic cellular activity of, (140) 1043
  radiotherapy of, biologic principles of, (84) 2010—ab
  removed from sphenoidal sinus, (79) 2097
  research, (95) 1740—ab
  septicemia, secondary, (22) 2236—ab
  statistics, appeal for uniformity in, (90) 1195—ab
  superficial, treated by radium bromid, *894
  surgery of, at dawn of 20th century, (52) 1556—ab
  surgical treatment of, (3) 1815—ab
  uterine, clinical manifestations of, (132) 442
  uterine, diagnosis of, (148) 268—ab
  uterine, hysterectomy for, (59) 2008—ab
  uterine, incomplete operation for, and long freedom from recurrence, (112) 1914—ab
  uterine, plea for early diagnosis of, (118) 534
  uterine, pregnancy complicated with, (90) 1825
  value of diminished cardiac dullness in diagnosis of, (9) 871—ab
  x-ray in, (56) 947—ab, (84) 2010—ab
Cancers, abdominal, secondary implanted, (82) 356—ab
  melanotic, of vulva, (131) 359
  mouse, spirochetes in, (93) 176
  multiple, (132) 178—ab
Cannabin tannate, Merck, *1780
Cannula tampon, for laryngeal stenosis, (36) 2237
Cantharides poisoning. acute, (8) 1282
Canteen, Army, facts about, (99) 1733—ab
Canula, Crile, modification of, *1233, (48) 1108, (105) 2099
Capsulotomy, complete peripheral, (137) 1037
Cardiospasm, severe, (49) 1380
Car sickness, (13) 865—ab
Carbohydrate reactions of streptococci, constancy of, (6) 870
Carbon dioxid snow in nevi and other lesions of skin, (75) 356—ab, (106) 1037—ab
  monoxid hemoglobin of blood of miner killed in explosion in bituminous coal mine, examination for, (64) 1109
  monoxid in blood, determination of, (89) 176
Carbuncle, treatment of, (83) 1825—ab
Carcinoma: See also Cancer.
  antiferments, treatment of, (52) 797—ab
  excision of stomach for, (132) 1553
  in high life, (95) 1186
  in mice, (18) 2006
  nature of, and early diagnosis of gastric carcinoma, (8) 2000—ab, (71) 2189—ab
  negative results of injections of placenta blood in, (51) 797
  of appendix, (38) 1730
  of appendix, primary, (45) 167, (156) 171, (108) 260—ab, (56) 355—ab, (31, 32) 439, (34) 707, (22) 795—ab, (37) 1033, (5) 1105, (37) 1730
  of appendix, primary, and sarcoma, (108) 260—ab
  of appendix, primary, and endothelioma, (32) 439
  of appendix, primary colloidal, (45) 167
  of appendix, primary, in child, (16) 2234
  of appendix with metastases to ileocolic glands, (109) 260—ab
  of ascending colon, (15) 628
  of bladder, radical treatment of, (33) 1372—ab
  of both breasts, (46) 1468—ab
  of cervix uteri, radical abdominal operation for, (6) 1551—ab
  of esophagus, resection and plastic operations for, (53) 1556
  of Fallopian tube, primary, (26) 952
  of gland of Bartholin, (103) 1473-ab
  of jejunum, (8) 794
  of jejunum and ileum, primary, (49) 797
  of larynx, laryngectomy for, *1072
  of liver, primary, (126) 1474
  of nasopharynx and sphenoid region, radium in, (89) 442
  of nipple, (119) 1914, (72) 2193
  of rectum, comparative results of operative procedures, (94) 1110
  of rectum, excision of, by combined method, (155) 360—ab, (39) 791—ab
  of sigmoid, early diagnosis of, (4) 944
  of stomach: See Gastric Cancer.
  ovarian, histogenesis and diagnosis of, (58) 538
  Paget's eczema of nipple with, (40) 1550
  primary, origin of, (69) 798—ab
  serotherapy of, *1488
  uterine and fibroids, (2) 1461—ab
  uterine, behavior of ureters after abdominal operations for, (112) 877—ab
  uterine, early diagnosis of, (68) 1642
  uterine, inoperable, acetone in, (54) 947
  uterine, metastases of, in central nervous system and organs of special sense, (133) 2198—ab
  uterine, operation for recurrence, (75) 955
  uterine, primary, (30) 2001
Carcinomata, how frequently do gastric ulcers become? (104) 260-ab, (136) 353—ab
Cardiac, arrhythmia, (51) 708—ab
  murmurs, unusual, (14) 530
Cardiohepatic angle, (53) 168—ab
Cardiopathics, functional, and false heart disease, (56) 1738—ab
Cardiospasm, *540
  as cause of habitual vomiting of infants, (124) 1043—ab
  chronic, treatment of, (49) 1909—ab
  functional stenosis of esophagus at cordia, (61) 168
  severe, (49) 1380
Cardiovascular affections and venesection, *717
  and eye diseases, *212
  changes in renal diseases, (130) 793
  conditions, drug treatment of, *1745
  conditions, principles of treatment in, (76) 1036—ab
  disease, ear symptoms of, *1594
  system in prognosis, *1692
Caries, dental, as cause of disease in children, (145) 1282
  dental, cause and prevention, (3) 1282
  of hyoid bone, *1425
Carotid gland, tumor of, (126) 793
  glands, anatomy and pathology of, (56) 708
Carroll, James, life and work of, (54) 867
Carrot soup in digestive disturbances in infants, (73) 955—ab
Cartilage cells, structure of, and morphology of cartilage glycogin, (92) 2098
Cartridge method, collapsible, for subcutaneous injections, (93) 1740
Casein, solubility of, in alkaline solutions, influence of temperature on, (42) 1731
Castor oil in acute appendicitis, (104) 448—ab
Castration, influences of, on pelvic development in lambs, (60) 538
  influence of, on respiratory metabolism, (98) 2194
Casts, walking, technic of, (126) 1117
Catalase in tissues and its variations in disease, (25) 2089—ab
Cataphoresis, (32) 1462
Cataphoric sterilization treatment of cancer, (168) 950
Cataract, complicated, rare form of, (130) 1188
  extraction, (140) 170, (39) 445—ab, (105) 1733
  extraction, after-treatment of, (135) 442
  extraction, opacification of cornea following, *296
  family, genealogical tree of, (81) 2009—ab
  immature, treatment of, (7) 951, (33) 2191—ab
  incipient, and age, association of, with normal and pathologic blood pressure, *400
  lamellar, rachitic erosions of permanent teeth with, *1130
  operation, secondary, glaucoma following, (121) 1905
  senile, desirability of ophthalmoscopic examination while view of fundus is still obtainable. (91) 2004—ab
  senile, theories of origin of, (132) 1117
  wire lid-elevator for prevention of loss of vitreous humor in extraction of, (180) 171
Catarrh, atrophic middle-ear, *364
  Eustachian, with hyperinflation, (89) 1552
  nasopharyngeal, in children, treatment of, (127) 1043
  of ear, and adenoids, (99) 2005
  respiratory, Ems treatment of, (31) 444
  respiratory, treatment of diseases due to, (23) 73
Catgut, buried, and intercutaneous suture in plastic operations on perineum, (48) 531
  iodized and chromicized, (115) 800
  prepared with collargolum and argyrol, (171) 950
Cathartics, and purgation, (40) 1185
Cathay, (20) 167
Catheter, suprapubic, relief of retention of urine by, (26) 1462, (114) 1733
Catheterization, retrograde, plea for prompt use of, in surgical treatment of impassable stricture of urethra, (19) 167—ab, (69) 258-ab
  ureter and cystoscopy in children, (75) 1912—ab
  ureter, in diagnosis and treatment, (57) 1642—ab
Catgut, silverized, argyrol method, (41) 2089
Cats as plague preventers, (8) 1820—ab
  epidemic among, micro-organism causing, (61) 1469

Cats saliva of, diastase in, (59) 350—ab
vasodilator fibers to submaxillary gland in cervical sympathetic of, (22) 1033
Cattle, ocular tuberculin reaction in, (22) 1184
plague, virus of, filtration experiments with, (71) 382
protection of, against tuberculosis, (121) 359—ab, (94) 869
rudimentary segments of lung in, (99) 1913
transmission of tuberculosis from man to, (48) 2095
tubercle bacilli and tuberculosis in, (56) 2096—ab
vaccination of, against tuberculosis, (94) 869, (47) 1738—ab
Cauterization, steam, of uterus, (58) 954 (87) 1826—ab
Cautery, actual, modification of technic for intestinal anastomosis with, (58) 355
automatic actual, (99) 1288
Cavernous sinus, septic thrombosis of, (162) 1189
Cavities, accessory, and nose, throat and eye affections of, (77) 1471—ab
Cecum, migration of, obstructing ascending colon, (8) 343—ab
movable, as cause of disturbances ascribed to chronic appendicitis, (74) 1739
movable, fixation of, to relieve chronic appendicitis, (109) 1383—ab
perforation of, following delivery, (107) 1377
Cell division, active, non relationship of to prognosis in malignant disease, *910
eosinophilic, occurring in hematopoietic organs in diphtheria and tuberculosis, (104) 869
proliferation reactive in white rat, and genesis of transplantable tumors, (27) 2089
Cells air, accessory, in septum nasi, (28) 1467
cartilage, structure of, and morphology of cartilage glycogen, (92) 2098
differential counts of, in lymph of dog, and bearing on hematology, (158) 870
gastric, significance of wash water examinations for, in diagnosis of atrophic gastritis, (15) 348
liver, light colored, (45) 713
interstitial, in testicles, (95) 1913
nerve, Edinger's theory of using up of (123) 1914
peculiar inclusions in, in acute myeloid macrolymphocyte leukemia, (117) 1896
peculiar, in tonsil of dog, probable significance of, (98) 1913
plasma, hyalin corpuscles in, (123) 634
vitality of, influence of lightning electric treatment on, (115) 1474—ab
Cement dermatosis, (41) 953—ab
Centers, cerebral for taste and smell, and uncinate group of fits, *879
Cephalocele, three cases of, in one family, (8) 1461
Cerebellar ataxia, hereditary, (43) 81
neurasthenia, (118) 2100
symptom in hydrocephalus *1933
Cerebello olivary fibers, course of, in tuberculosis of spinal cord and medulla, (43) 445
Cerebellum and cerebello pontine angle, symptomatology of tumor in, (81) 1825—ab
and cerebrum, multiple hernias of, due to intracranial pressure, (111) 869
tumors of, diagnosis, surgical treatment and symptomatology, (85) 1649—ab
meningeal tumor compressing, (137) 170
pathology of tumors in, (43) 953—ab
Cerebral decompression, principle of, (42) 1551—ab
Cerebration deficient in chronic purulent otitis media, cure by mastoid operation (144) 950
Cerebrospinal fluid, in anterior poliomyelitis, (153) 870
fluid in typhoid, typhoid bacilli in, (67) 714
fluid cytologic examination of, (72) 55—ab
Cerebrum and cerebellum, multiple hernias of, due to intracranial pressure, (111) 869
Cervical glands, softened tuberculosis of, possibility of avoiding scar formation (1) 2000—ab
mucosa, lymph node in, (113) 1651
sympathetic of cat, vasodilator fibers to submaxillary gland in, (22) 1033
Cervix uteri, acute puerperal inflammation of, with secondary rigidity of external os, (37) 354—ab
advantages of water bag dilatation of, over version, in placenta previa (122) 1827—ab
atypical pavement epithelium in, (52) 630
cancer of, immediate mortality of abdominal hysterectomy for, (14) 2190
carcinoma of, radical abdominal operation for, (6) 1554—ab
diseases and injuries of, (44) 1279
elongation of, complicating delivery, (16) 2275—ab
inflammations in and around, in pregnancy, treatment, (95) 1195—ab
malignant adenoma of, vaginal portion of, (135) 2198
posterior longitudinal incision of, (118) 1742—ab
removal of laminaria tents from, (146) 360
vaginal ablation of cancer of, results of, (110) 1383—ab
Cesarean section, (4) 78, (32) 167—ab, (188) 171, (82) 533, (33) 1816, (62) 2091
abdominal, *734
abdominal cervical, *732
abdominal, indications for, (46) 167—ab
and spinal anesthesia, (98) 176—ab
conservative, hernia of gravid uterus after, (144) 360
extraperitoneal, (143) 360, (124) 717, (144) 1043, (108) 2099
extraperitoneal, and subcutaneous symphyseotomy, (10) 1377
extraperitoneal limitations of indications for, (134) 2198
four successive on one patient, (49) 2002
in dystocia, (26) 1033—ab
in eclampsia, recovery of mother and child, (61) 947
indications and technic, (6) 438—ab
indications for, (53) 532—ab, (43) 623—ab, (45) 2000—ab
influence of asepsis and infection on technic of delivery by, (61) 1648—ab
Porro, (87) 1110
rupture of uterus through cicatrix, (43) 75—ab
superiority of primary over secondary, (32) 1816—ab
suprasymphyseal, (124) 717, (45) 953—ab
suprasymphyseal, indication for, (124) 1561
to reduce danger of natural straining with placenta prævia, (112) 1651—ab
transperitoneal by cervico meso uterine longitudinal incision, (60) 1648—ab
vaginal, and induction of premature labor, indications and contraindications, (30) 1278
vaginal, in eclampsia, (69) 624
vaginal, in general practice, (65) 264—ab, (94) 1740
vs sections of pelvis, (37) 707—ab
vs other methods of delivery in contracted pelvis, (9) 1377
Cestode larva, proliferating, in man in Florida, (98) 1110—ab
Chaillé, Stanford Emerson, (83) 792
Chair, adjustable canvas, as aid to Murphy treatment of diffuse suppurative peritonitis, *1133
Chalazion, (37) 2094
Chancre at point of experimental inoculation, (82) 530
soft, in rabbits' cornea, inoculability of bacillus of, (113) 1914
Charcot joint, (86) 625
Charity epoch in Illinois, public, (84) 1186
Cheek and lip, mixed tumors of, (43) 629
cancer of, involving jaw, method of operation in, (31) 1730—ab
Cheeks and commissures, leukoplasia of, semiologic importance of, (55) 445—ab
Cheilitis exfoliativa, (99) 1110, *1684
Chemical constitution, physicochemical properties and pharmacodynamic action (85) 709
regulation of function, (140) 626
Chemistry, biologic, problems of, (23) 866
Chemistry of anaphylaxis, (56) 2003 ab
of liver in chloroform necrosis, (41) 1731
of stomach, changes in, after gastroenterostomy, (60) 1910—ab
physics and biology, what subjects can be practically included in year's work in, (19) 707
Chemists, manufacturing, are physicians justified in taking pay from, for scientific tests of pharmaceutical preparations? (65) 1648—ab, (105) 2011—ab
Cherry laurel water, and camphor water in collyria, (143) 170
Chest See also Thorax
and abdomen, orthodiagraphic examination of organs in, (135) 1743
irrigation of, in empyema, blood pressure lowering reflexes from, (26) 1816—ab
troubles, treatment of, by outdoor sleeping, (25) 354—ab
wall and lung, operative mobilization of, in treatment of unilateral pulmonary tuberculosis, (99) 1116
x-ray diagnosis of diseases of, (5) 2185
Chicory, research on, (108) 1913
Chicken cholera virus, ultrafiltration of, (79) 799
meat, hydrolysis of, (34) 1278
Child See also Children
after age of 2, (41) 1908—ab
aged 4 years, rare pelvic tumor in, (23) 952
ailing poor law, future of, (10) 1735
and mother, recovery of, after Cesarean section in eclampsia, (61) 947
conditions that require removal of from breast, (34) 167—ab, (74) 441—ab
diphtheria and impetigo contagiosa in, (5) 870
double suppurative parotitis complicating typhoid in, *2216
eczematous infection of, from vaccinated brother, (85) 1740—ab
healthy, at term, extrauterine pregnancy with, (29) 712—ab
influence of breast nursing on development of, (151) 86
living, ectopic heart in, (117) 1742
new born, weight of, in relation to weight of placenta, (114) 78—ab
physiology of growth and development of, (81) 1912
organism of, response of, to foreign albumin, and its ability to produce antibodies, (80) 715
removal of grain of corn from trachea of, (107) 1552
sick, (67) 1904—ab
transmission of infection from puerpera to, (95) 632—ab
typhoid, complicated by aphasia in, (39) 1185—ab
typhoid in, empyema and gangrene of lung complicating, (61) 257
with adenoids and impaired hearing, responsibility of physician for future of, (42) 1374—ab
xanthoma planum, generalized in, (14) 1901
Childbearing age, ventrosuspension of uterus during, (41) 707—ab
Childbed infections, prevention of, (79) 533
Childbirth, acute peritonitis before and during, (121) 717
advantages of institutional care during, (95) 2099—ab
allowing women to get up early after, (91) 1195—ab
and pregnancy, and axial torsion of large intestine, (116) 1117
and pregnancy with congenital mitral stenosis, (30) 712—ab
Cesarean section versus sections of pelvis in, (37) 707—ab
hemorrhage during, (158) 86
postanesthetic acetonuria with delayed excretion of acetone after, (13) 2005
retroversion after, prevention of, (74) 2189—ab
spontaneous, with narrow pelvis, (65) 1113
suicide during, (82) 799
with contracted pelvis, (64) 535—ab
with double uterus, (187) 87—ab
Childhood and infancy, care of mouth during, (12) 2186—ab
and infancy, diet in, (19) 712
and infancy, gastrointestinal diseases of, (40) 531, (73) 948
and infancy, tuberculosis in, (71) 441
arrested local development from burns in, (50) 355
breast tumors in, (31) 2[illegible]—ab
Childhood, common skin diseases of, diagnosis of, (62) 532
danger from infection during and overcoming of tendency to tuberculosis (9) 2185—ab
diagnostic importance of vomiting in, (66) 868
diarrhea from gastric achylia in, (99) 2099—ab
hydrotherapy in, (63) 257—ab
injurious habits and practices of, (24) 73
nephritis, acute in, unusual type of, (41) 867—ab
obscure fever in, (3) 347—ab, (86) 869—ab
paralysis, general, in *1946
pericarditis in, fatal suppurative, (30) 262
pneumonias in, (63) 168, (26) 872—ab
problems of, (91) 710—ab
rheumatic cycle in, (54) 440
symptomatology of disease in, (93) 2189—ab
syphilis in, (8) 438—ab
unusual sequelæ of convulsions in, (4) 1906
Children, abuse of alcohol in diseases of, 622—ab
amblyopia in, (12) 627—ab
and adults, disease in, defensive arrangements of body as illustrated by, (43) 1284—ab
and atrophic infants, plan of dealing with, (40) 867—ab
and infants, chronic constipation in, (47) 1817
and infants, diabetes in, (87) 1376—ab
and infants, pneumonia in, ambulatory treatment of, *286
and infants, summer diarrheas of, (137, 138) 534
anemia in young, (78) 1912—ab
anemia in, treatment of, (90) 1382
anomalous pyrexia in, (1) 1282—ab
appendicitis, acute, in, (14) 1372—ab
arthritis deformans in, (60) 709
asthma, bronchial, in, (60) 874—ab
asthma in, etiology of, (89) 715—ab
backward, hypertrophied faucial tonsils and adenoids an etiologic factor in, (87) 869
between 3 and 6, blood findings in periodical acetonemia in, (112) 1289—ab
brain tumors in, (83) 82—ab
bullous eruptions in, (22) 1820
cirrhosis of liver in, (101) 266
colored, of Jamaica, rickets and Mongolian spots in, (42) 867 ab
comparative dosage in, (92) 2189—ab
crippled and deformed, New York State Hospital for, (119) 676
cruelty to, and alcoholism, (20) 261
cutaneous tuberculin reaction in, (91) 540—ab, (103) 541, (62) 791
cystoscopy and catheterization of ureters in, (75) 1912—ab
dental caries as cause of disease in, (145) 1252
diet and hygiene of, (91) 2189—ab
disturbances in speech in, pathology and symptoms of, (75) 798—ab
effect of altitude on heart lesions in, (63) 948
empyema in, (19) 172—ab
empyema in, differential blood count in diagnosis of, (109) 949
epileptic and feeble minded, (62) 1465—ab
fatty acid intoxication in, (15) 1735
fatal hemoptysis in, (45) 867
feeble minded types of, and their significance, (39) 2007—ab
female, vaccine treatment of gonorrhea in, (78) 169—ab, *1208, *1301
fevers of intestinal origin in, (146) 1906
fracture of radius in, (126) 878
friendless, Budapest Asylum for, (87) 82
functional kidney tests in, (44) 2101—ab
gastrointestinal disorders among, (40) 531, (7) 948
gonorrhea in, (86) 1723
growth of, thymus treatment of disturbances in, (129) 459—ab
health resorts and climates for, (25) 444
heart disease in, prognosis of, (38) 2006
hemorrhoids in, (47) 2192
hernia large, in, (42) 1907
herniotomy in, (9) 1551
hourglass stomach in, (66) 1472—ab

Children, hydronephrosis in, and its treatment, (110) 1733—ab
  hygiene of eye in, (44) 623—ab
  hyperpyrexia in, *1920
  improper seating of, in school, spinal curvature arising from, (115) 170
  lungs in, acute affections of, (23) 536
  lymphatic apparatus in, (86) 82
  malaria in, *916
  megacolon in, (85) 265—ab
  melancholia in, (84) 1733—ab
  mental and physical development of, relation of adenoids and tonsils to, (69) 441
  nasopharyngeal catarrh in, treatment of, (127) 1043
  nervousness in, and diet, (104) 1560—ab
  neuroses in, reflex, (50) 1279
  normal, arterial pressure in, (37) 629
  nutrition of, practical application of food values in, (79) 1186—ab
  of consumptives, *1413
  of Queensland, plumbic ocular neuritis in, (11) 2093
  of school age, incidence of pulmonary tuberculosis in, (30) 1112—ab
  older, periodic acetonemia in, (100) 716—ab
  papilloma of larynx in, (92) 2092
  paradysentery and similar affections in, (107) 1116
  persistent loss of appetite in, curative effect of rest, *1917
  perinephritic abscess in, (129) 442
  physical defects of, causing subnormal and mentally deficient pupils, (76) 625—ab
  physical deterioration in, (29) 1038
  pneumococcal peritonitis in, (36) 1467
  pneumonia in, (46) 623, (12) 951
  prephysical signs of tuberculosis in, *1752
  primary tumors of adrenal gland in, (35) 439
  psychoses in, (105) 84—ab
  respiration in, (29) 173
  retention of urine in typhoid in, (37) 712
  rheumatism in, (170) 171, (52) 708—ab, (41) 1185, (88) 1376
  rheumatism, nodular, in, (134) 178—ab
  ringworm in, (80) 2194
  school, (15) 1815—ab
  school, effects of faulty eye, ear, nose and throat conditions on mental development of, (88) 1466
  School, Inspection of: See Medical Inspection of Schools.
  school, orthodiagraphic study of heart in, (97) 1116
  septic arteritis and aneurism in, (82) 82—ab
  small, cancer of liver or kidney in, (97) 1472
  small, treatment of hydrocephalus in, (58) 1909—ab
  summer diarrhea in, (135) 1282
  summer diarrhea in treatment of, (117) 1042
  tendency to spasm in, and lime metabolism, (57) 874—ab
  tuberculin reactions in, comparative diagnostic importance of, (111) 1741—ab
  tuberculosis in, and tuberculous cows, (22) 73
  tuberculosis in, pathology of, (56) 76—ab
  tuberculosis, latent endothoracal glandular in, diagnosis and specific treatment of, *(106) 1473—ab*
  tuberculous, (40) 1468
  tuberculous, infrequency of hemoptysis in, 915—ab
  tumors in bladder in, (76) 1912—ab
  undescribed affection of certain bones in, (116) 1474—ab
  urinary tuberculosis in, diagnosis of, (39) 1821—ab
  vulvovaginitis in, (96) 77
  vulvovaginitis, gonorrheal, treatment of, (78) 169—ab, *1298, *1301
  weak nervous, arsenic for, (41) 81
  with spondylitis, x-ray diagnosis of tuberculous pulmonary glands in, (69) 2097
  young, pyopericardium in, (11) 951—ab
  young, rheumatism in, and fatal suppurative pericarditis, (30) 262
Chimney-sweep's cancer, (22) 1038
China, hygiene in, (33) 796—ab
  medical practice in Canton, (65) 1109
  opium habit in, (94) 259
Chinn, Jack P., vs. Foster-Milburn Co., history of case of, (44) 1185-ab
Chinoline carbonates, action of, and their derivatives on elimination of uric acid, (67) 446
Chlorids, excess of, in lymph, (67) 350—ab
Chloroform, action of, administered by different channels, (13) 711—ab
  and ether anesthesia, (14) 789, (105) 1110
  and ether, value of warming vapor of, (67) 624
  and scopolamin-morphin anesthesia, (13) 1377—ab, (45) 1468—ab
  anesthesia, (131) 793, *1578
  anesthesia, apparatus for, (14) 951
  anesthesia, fatal toxemia after, (7) 1282
  anesthesia, influence of covering mask with towel, (183) 87, (146) 1043—ab
  narcosis, degeneration of liver following, (35, 81) 1643, (41) 1731
  poisoning, (76) 1642
Chloroma and acute lymphatic leukemia, (31) 262—ab
Chlorosis, secondary and pernicious anemia (93) 352
  size of heart in, (51) 1286
Cholecystectomy, (98) 352, (111) 1819
Cholecystenterostomy in form of Y, (17) 1554
Cholecystitis, (23) 261—ab, (84) 793
  acute, early operation in, (114) 84-ab
  acute, in second week of typhoid, (37) 1640
  and appendicitis, hematogenic infection in, (88) 2194
  and prevention of gallstones, (9) 2088
  experimental, (45) 174
  regurgitation a symptom of, (22) 1640
  remote symptoms and effects of, (49) 791
  typhoid, and its treatment, (47) 263—ab
Cholecystostomy with recovery of pure culture of typhoid bacilli from gall bladder, (37) 1640
Cholelithiasis and diabetes mellitus, (116) 634
  and surgery of pancreas, (130) 170
  pathogenesis of, (50) 713—ab
  soap concretions in, *674
Cholesterin crystals in pleural effusion, (121) 800
  tetanus treated with, (137) 1734
Cholera, (67) 532
  and commerce, (3) 2185
  cause of frequent reappearance of, in Philippines, (66) 532—ab
  chicken, virus, ultrafiltration of (79) 799
  infantum, (14) 73—ab
  saline transfusion in, value of taking specific gravity of blood during, (36) 2191—ab
  winter, *1499
Cholesteatoma of umbilicus, (48) 797
Cholesterin in pernicious anemia, *2154
Chondrectomy for emphysema from *rigidity of thorax, (51) 797*
Chondrodystrophia fœtalis, (58) 532
Chondroendothelioma of head, (125) 1914
Chondroma and osteochondroma, (71) 1039
  and osteoma in faucial tonsils, (142) 950
Chondromata, osteitis, bone cysts and similar affections, (80) 632
Chondrotomy in apical tuberculosis, (73) 1911—ab
  of first rib in incipient apical tuberculosis, (106) 449—ab
Chorea, (10) 1283—ab
  chronic, loss of earning power from, (78) 1381
  during pregnancy, (39) 263—ab
  gravis, (126) 260
  Huntington's, (10) 1466
  magnesium sulphate intraspinal injections in, (53) 2192—ab
  mental state in, (72) 533—ab
  nasopharyngeal origin of, (45) 2192—ab
  rheumatism as after-affection of, (82) 715—ab
  treatment of, (33) 1467, (35) 2006
Chorioepithelioma, (22) 952
  in a man, (88) 876—ab
  incipient, with metastasis in vagina, (113) 359
  malignum, (58) 2091
  of ovary, primary, (78) 82
  or syncytioma of placenta, (29) 167—ab
  of uterus, (45) 531
Chorioid: See also Eye
  angioma of, (116) 1905
  probable congenital circumscribed defect in, with anomalous pigment and vascular arrangement, (120) 352
Chorioid, sarcoma of, (124) 1188—ab
Chromium sulphate, in medicine, (72) 1642
Chromocystoscopy, value of, in diagnosis of kidney disease, (9) 2005—ab
Churches, halls and public assembly rooms, sanitary construction and furnishings of, (161) 1188
Chyluria, (87) 540—ab
Cicatrices, filtering, by two methods, (30) 1283
Cicutine, (97) 1110
Ciliary body and iris, diseases of, (40) 946
Cincinnati, certified milk in, (86) 351
Circulation, advantages of general anesthesia with part of, cut off, (94) 1826—ab
  disturbances of, in diphtheria, *2121
  physiology of, (37) 440
  portal, disturbances in, from congestion of bile, (135) 267
  recent studies on, *473
Circulatory disturbances and venesection, (101) 358—ab
  disturbances, examination of blood in peripheral vascular provinces with, (134) 1117—ab
  system, treatment of diseases of, with Zander methods, (15) 1372—ab
Cirrhosis-of-liver, (125) 2197
  and cancer, with neoplastic infection of nerves and arteries, (128) 1914
  anemia of, simulating pernicious type, *1143
  collateral circulation in, anastomosis between portal vein and vena cava in, (118) 450
  development of, (66) 446—ab
  epithelioma of liver and, (120) 1384—ab
  experimentally induced, (71) 446
  following lymphatic leukemia, (68) 539—ab
  hemochromatosis with, (115) 1037
  in children, (101) 266
  intralobular, produced by protozoal parasite of kala-azar, (36) 1038—ab
  malarial, (10) 794
  origin of, (99) 1559
Cities, small, sanitation of, (81) 1552
Citizen, physician as, (41) 946
Citizens, duty of state to, (87) 1904
City, duty of to municipal plague spots, (65) 76
Civil service commission, what it is accomplishing, (75) 169
Civilization, quality or quantity in progress of? (69) 1738
Classification of diseases, apoplexy in, (7) 1371
  of diseases, international, and morbidity returns, (12) 2089—ab
  of diseases, international, its advantages, defects and deficiencies, (2) 1371—ab
Claudication, intermittent, (18) 536
  intermittent, and obliterative arteritis, (5) 710
Clavicle, fracture, unusual, of, (11) 794
  fractured, new dressing for, (104) 1110
  fractured, treatment of, (7) 2233
  fractured, wire suture of, (134) 717
Cleft-palate (141) 78
  and harelip, (149) 1734
  and harelip operations, technic of, (140) 1188
  and hare-lip, repair of, (135) 1906
Climate and nose, (30) 444
  change of, and treatment in sanatoria near at hand, comparative value of, in pulmonary tuberculosis, (3) 2088—ab
  change of, instructions which should be given tuberculous patient making, (48) 1374
  is it changing? (35) 2006—ab
  Colorado, etiologically and therapeutically considered, (101) 1552
  Colorado, how does it influence tuberculosis? (111) 1644
  in tuberculosis, (76) 1186
  of north and northwest in etiologic and therapeutic relation to diseases of nose, throat and ear, (102) 1552
  tropical, effects of on white race, (101) 1733
Climates and health resorts for children, (25) 444
  for aged, (24) 444
Climatotherapy of tuberculosis; physical rather than bacillary grounds, (167) 950
Clinician, pathologist and layman, correlation of, *191
Clinics, dental, (145) 1282
  of Germany, methods of diagnosis in, (62) 168
Clitoris, hypertrophy of, (50) 1113
Clonus, foot, apparatus for automatic registration of, (126) 1914
Clothes worn by consumptives, infectiousness of, (118) 800
Club foot, splint for, after operation, (69) 76
Coal mine, bituminous, examination for carbon monoxid hemoglobin of blood of miner killed in explosion in, (64) 1109
Coal tar in chronic eczema, *497
Cocain and opium, insanity caused by acute and chronic intoxications with, *97
  as local anesthetic in radical operation for inguinal hernia, (95) 1552
  in surgery, (51) 791
  or stovain local anesthesia, by Tuffier's method, operations performed under, (6) 1820
Coccidioidal granuloma, relation of, to systemic blastomycosis, (17) 944
Coffee and tea poisoning, (46) 349
Coffee, caffein-free, (87) 2009
Cognition and sensism, (59) 1552—ab
Cold and mechanical exercise, influence of on sugar excretion in phloridzin glycosuria, (71) 350—ab
  apparatus for application of in mastoiditis, (136) 85
  common, pathology and treatment, (12) 2235
Colectomy for cancer of large intestines, (47) 629—ab
Colic, (122) 1188—ab
  abdominal, (114) 2100—ab
  nephritic, synonyms; renal colic, kidney colic, (94) 2004
  renal and hepatic, (10) 2233
Colitis, anatomic causes and surgical treatment, (95) 710
  chronic, (21) 2190
  in animals, study of bile in experimental production of, (40) 256
  membranous, effective treatment of, (18) 1032
  mucous, and relation to appendicitis and pericolitis, (14) 535—ab
  ulcerative, and asylum dysentery, (25) 1377
  ulcerative, chronic, (49) 264—ab
Collapse, after injection of diphtheria antitoxin, *38, (19) 255—ab
  shock and syncope, (60) 1185
Collargol and argyrol, catgut prepared with, (171) 950
  in puerperal infection, (48) 81
College of Medicine of University of Southern California, inauguration of annual session, (114) 1819
Colleges and universities as factors in tuberculosis educational campaign, (92) 1904
  dental, pathology in, *30
  Medical: See Medical College
Colles' law and Profeta's law in light of modern serum research, (118) 1290
Collodion dressings, intranasal, *1152
Cellyria, camphor water and cherry-laurel water in, (143) 170
Colon aërogenes group of bacteria, (112) 869
  and rectum, fermentative power of polypus secretion in extensive polyposis of, (97) 1041
  and stomach, pathology of fistula between, (97) 448—ab
  ascending, carcinoma of, (15) 628
  ascending, migration of cecum producing obstruction of, (8) 353—ab
  Bacillus: See Bacillus Coli Communis
  cancer of, (4) 1553
  congenital idiopathic dilatation of, (133) 352—ab
  descending, invagination of, surgery of, (181) 87
  mucomembranous non-inflammatory affections of, (73) 82—ab
Coloproctitis, (120) 78
Color conversion, solution of Steven's new phenomenon of, (126) 1905
  permanent, of muscles, vessels, nerves and organs, preservation of anatomic dissections with, by new method, *642
Colorado and asthma and hay-fever, (116) 1644
  and cardiac affections, (118) 1644
  and eastern tuberculosis, (22) 439, (17) 622
  and non-tuberculous pulmonary disorders, (117) 1644
  climate, etiologically and therapeutically considered, (101) 1552
  climate, how does it influence tuberculosis? (111) 1644
  consumptives born in, (114) 1644

Colorado, nervous disorders in, (119) 1644
  physicians in, for tuberculosis, (115) 1644
  what consumptives should come to, (112) 1644
  what consumptives should not come to? (113) 1644
Colostomy with attempt at sphincteric control, (19) 2093—ab
Colotomy, Brewis' appliance for use after, (10) 1820—ab
Colpohysterectomy, total, by perineal-abdominal route, (45) 263
Coma, diabetic and diabetic acidosis, treatment of, (82) 265—ab
Commerce and cholera, (3) 2185
  effects of bituminous coal smoke on, (8) 1815—ab
Compensation for industrial accidents and traumatic inflammation of joints, (69) 1380
Complement and amboceptors in typhoid sera, (44) 1464
Complement-binding antibodies in tuberculosis and their connection with healing processes, (123) 2197
  antibodies in tuberculous serum in connection with tuberculin, (58) 1193
  in experimental trypanosomiasis, (176) 87
  in relapsing fever, (79) 539
  in scarlet fever, (105) 1741
  in serum test in inherited syphilis, scarlet fever and other infectious diseases, (66) 1911—ab
  significance of, for theory of action of tuberculin, (107) 1383
  substances in urine in syphilis, (91) 83
  test in leprosy, (171) 87
  test in meningitis, (93) 2010
  test in syphilis, (52) 2096—ab
  trypanosome infection and, (104) 1041
Complement deviation in scarlet fever, (87) 1115
  deviation in syphilis and parasyphilitic affections, (153) 360
  deviation test in typhoid, (62) 1380
  deviation with tubercle bacilli derivatives as antigen in tuberculosis and infectious diseases, (106) 1383
  fixation, (50) 1737
  fixation in malignant disease, (23) 1184
Compressed-air illness, (35) 262—ab, (15) 354.
  illness and diving, (14) 354
  illness, influence of fatness on susceptbility to, (25) 2190—ab
Compression, behavior of muscle after, (63) 350—ab
Conception and menstruation, (79) 1470
  menstruation and duration of pregnancy, computation of, (108) 1041
Concrements forming on threads after gallstone operations, (98) 358
  in lungs and treatment with silicic acid, (63) 874
  in urine, pathology of, (53) 954
Condurango bark and kawa root, (79) 1194
Condylomata, pointed, conglomeration of, (110) 1473
Configuration, meteorology, and general health of midland counties of England, (35) 444
Confinement cases, difficult complicated, (58) 2188
Confinements terminated variously, (4) 1820
Conjunctiva, Conjunctivitis: See also Eye
  diseases of, (15) 73
Conjunctival Reaction: See Tuberculin
Conjunctivitis, acute catarrhal, (112) 1187
  chronic, (75) 447—ab
  Samoan, investigation of, (34) 2187—ab
Connecticut, tuberculosis in, (12) 622—ab
Connective tissue fibers in mucosa of uterus, (54) 1646
Consanguinity a cause of congenital nystagmus, (126) 1282
  and ocular disease, (111) 1187—ab
Consciousness, transitory disturbances of, in epileptics, (56) 1352
Constipation: See also Obstipation
Constipation, (25) 872, (61) 1552, (12) 1644
  chronic, in infants and children, (47) 1817
  chronic, treatment of, (84) 1376, (110) 1651—ab
  habitual, mechanical treatment of, (116) 170
  habitual, sawdust bread in, (85) 539—ab
Constipation, physical treatment of, (93) 534
  treatment, (42) 81
Consumption: See Tuberculosis
  of oxygen, value of, as test for water, (111) 2011
Consumptives, atrophy and hyperplasia in liver in, (101) 1472
  care of, (90) 1904
  children of, *1413
  Colorado-born, (114) 1644
  convalescent, choice of occupation for, (147) 950—ab
  curable subacute encephalitis in, (66) 2008
  do they sleep on side of lesion or not? (40) 1191—ab
  hyperalimentation of, dangers of, (25) 1554—ab
  infectiousness of clothes worn by, (118) 800
  instructions which should be given to, on changing climate, (48) 1374
  intravenous treatment of, with cinnamic acid, (67) 1557
  marriage and intermarriage of, (129) 1644
  negro, what shall we do with? (121) 793
  poor, plea for more sanatoria for, (7) 348
  proper advice to, (82) 948—ab
  respiratory metabolism of, during night sweats, (111) 1826
  solar plexus in, pathologic anatomy of, (49) 538
  who should come to Colorado, (112) 1644
  who should not come to Colorado? (113) 1644
Contacts, typhoid due to, (6) 2088—ab
Continence, sexual, compatibility with health, (84) 259—ab
Contracture, ischemic of muscles, and plaster cast, (100) 2195—ab
Conus medullaris affections of, (55) 1192—ab
Convalescence from diphtheria, cervical and submaxillary adenitis in, (34) 2006
  treatment of, after abdominal operations, (56) 532
Convulsions and rigidity in apoplectiform hemiplegia, and hemorrhage into ventricles, *216
  in childhood, unusual sequelæ of, (4) 1906
  lime in origin and treatment of, (128) 1743—ab
  resulting from complete vaginal atresia, (69) 1465
  treatment of, (100) 1560—ab
Cooking, stimulants used in, (65) 1185—ab
Copper-hydroxylamin test for grape sugar, (111) 800
Cord, umbilical, ligation of, *917
Cords, vocal, laryngeal crises and paresis of abductors of, *815
Corn oil in pulmonary tuberculosis, *39
  removal of grain of, from trachea of child, (107) 1552
Cornea: See also Eye
  diseases of, (15) 73
  interstitial punctate infiltration of, (137) 260
  opacification of, after cataract extraction, *296
  opacity of, from metallic caustics, treatment of, (76) 447—ab
  opacity of zonular, *220
  papilloma of, (123) 1905
  prognosis of injury of, (123) 450—ab
  protective influence of iris in perforated wounds of, (138) 1037
  recurrent traumatic erosion of, due to lachrymal stricture, (118) 1905
  traumatic perforation of, treatment (156) 1734
  ulcerations of, (23) 444—ab
Corneæ, both, complete congenital opacities of, (50) 867
Corneal ulcer, pneumococcus serum treatment of, (101) 541, (92) 1115
Coroners and their duties, (19) 2186
Corpus callosum, tumors in, (127) 178
  callosum, puncture of, in hydrocephalus, epilepsy and tumors, (110) 1042—ab
  luteum, internal secretion of, and reciprocal relations of ovary and pancreas, (123) 1742—ab
  luteum of gestation, (147) 442
  luteum, tuberculous cysts in, (136) 2198
Corpuscles, nucleated, infantile lymphoid leukemia with, (43) 355
  polychromatic and basophilic granulated red, formation of inclusions in (190) 1041
  red blood, action of arsenic on, (14) 627—ab
Corpuscles, red blood, effect of heated serum on, rouleaux formation of, (46) 1464
  red, mica plates for research on, (122) 1474—ab
  retrouterine sensory, in human fetus, (49) 81
  Vater-Pacinian, in Fallopian tube, (135) 359
Correspondence, war, of late James M. Holloway, extracts from, (86) 793, (125) 1377
Corrigan's disease, (101) 1377
Corset for gastroptosis, (11) 438
  for movable kidney and visceral ptoses, *1568
Coryza, acute, treatment of, (81) 799
  paroxysmal, and intractable hay fever, resection of nasal nerve for, (4) 171—ab
Costal arch, osteoplastic resection of, followed by resection of lesser curvature of stomach and esophagus, and esophagostomy, (33) 1739
  cartilages, necrosis of, (44) 2095—ab
Cough during auscultation of lungs, importance of, (160) 1037
  liver, (131) 1563—ab
Council-on-Pharmacy-and-Chemistry, constructive work of, *614
  critics of, *511
Counter prescribing and unethical advertising, (106) 352
County medical society, development of, (57) 168
Court, medical expert in, (54) 1903
Cow-pea, hydrolysis of vignin of, (53) 1108—ab
Cowpox, outbreak of, (10) 1189
Cows, tuberculous, and tuberculosis in children, (22) 73
  with udder affections, milk from, (136) 1743—ab
Coxalgia, diagnosis and treatment of, (145) 171
Coxa valga, (11) 711—ab, (55) 1909
  valga of adolescents, (72) 1286 .
  vara, congenital, treatment of, (107) 1650
Coxitis, gonorrheal, and protrusion of floor of acetabulum, (89) 2098
Cramps and spasms, differential diagnosis of, from paralysis, (31) 2186
Cranial and mastoid complications. and chronic recurrent suppurative otitis media, (59) 1732
Craniectomy, operative technic in, (59) 1738
Craniotomy, indications for, (88) 259—ab, (88) 625
  spiral osteotome driven by surgical engine in, *1150
Creatin and creatinin, excretion of, (42) 1817—ab
Creatinin in lying-in women, excretion of, (38) 263—ab
Crematoria, construction and management of, (14) 795
Cresol, elimination of, in dog after administration of lysol, (119) 634
Cretinism, endemic, in Chitral and Gilgit valleys, (2) 1906—ab
  pathogenesis of, (88) 447
  sporadic, (46) 867
Crime and imbecility and legal treatment of imbeciles, (108) 534—ab
  and latah, (10) 710
  inebriety and, (92) 1466
  Lombroso on appalling increase of, in our country, (23) 1278
Criminal procedure in European countries, (16) 2001—ab
Cripples, mental, (13) 2093
  principles of modern treatment of, (93) 1040
Croftan's method for differentiating suprarenal tissue by biochemical tests, (107) 266
Cuboid bone, subluxation of, and backward and outward subluxation of astragalus, (64) 356
Culex, three new species collected in Mauritius in 1908, (44) 1039
Culture filtrates, checking of phagocytosis in reagent glass by, (107) 1913
Culture-medium, Conradi *bile-blood*, value of, for diagnosis of typhoid, (107) 1289
  modification of Drigalski-Conradi litmus-agar, for isolation of B. typhosus, (11) 622
Cupping and passive hyperemia in acute suppurative infections, (26) 1640—ab
Curara, action of, and physostigmin on nerve endings or muscles, (44) 1817
Curds in infants' stools, (4) 72—ab
Cure craze, of today, (20) 80
  prevention rather than, (4) 1909
  work, *1485
Curettage, perforation of uterus during and excision of over fifteen feet of intestine, recovery, (77) 1818
Curette and treatment of abortion, (139) 1117—ab
  perfected, and technic of adenoidectomy, (104) 1552
  spring, (191) 87
Current rectifier, alternating, (122) 1820
Currents, high potential, and static electricity, treatment with, (113) 1111
  interrupted, in medical practice, (15) 1283
Curvature, lateral, mechanics of, (140) 1820
  lateral, physical therapy in, (50) 1641—ab
  lateral, treatment of, (120) 1552
Cutaneous Tuberculin Reaction: See Tuberculin Skin Reaction
Cyanid of potassium, disease of primary motor neurons causing clinical picture of acute anterior poliomyelitis, result of poisoning by, (71) 792
Cyanosis and dyspnea, (118) 1731
  congenital paroxysmal, with autopsy, (61) 1039
  polycythemia with, *1777
Cycloplegics in refraction work, (99) 793
Cyst: See also Cysts.
  blood, postoperative menstrual, (60) 81—ab
  dermoid, of jejunal mesentery, (14) 1377
  dermoid, removed from mesentery of small intestine, (105) 2194
  dermoid, removed without interrupting pregnancy, (27) 1372
  echinococcus, alveolar, (157) 1044
  echinococcus, sciatica from compression by, (153) 1044
  enormous endotheliomatous, of great omentum, (39) 1033
  hydatid, and abscess in liver, differential diagnosis between, (132) 1743
  milk-secreting in breast, (144) 1744—ab
  multilocular, of neck in infant, (42) 445
  ovarian dermoid, (50) 1646
  ovarian dermoid, with *carcinomatous* degeneration involving bladder; extirpation; recovery, (110) 1110
  [illegible] 1640
  [illegible] 96
  [illegible] right
  [illegible]
  retrovesical hyatid and retroperitoneal, with two omental cysts of same nature, (41) 1284
Cystectomy, injury of hepatic duct during, (104) 2099
Cystic disease of kidneys with pyuria and hemorrhages, (10) 2005
  tumor of suprarenal removed by operation, (11) 353
Cystidicola farionis, anatomy of, (53) 1039
  farionis, Fischer, threadworm parasitic in swim-bladder of trout, (52) 1039
Cystitis, (11) 865—ab
  chronic suppurative, treatment and prognosis, (96) 793
  cystica, pathology and cystoscopy of, (24) 1640
  from medical standpoint, (49) 2090
  in female, medical treatment of, (54) 350
  medical treatment of, (49) 257
  surgical treatment of, (133) 534
Cystocele, (60) 1612
Cytodiagnosis in differentiating tuberculous from epidemic meningitis, (97) 1819—ab
Cytoreaction, ocular tuberculin, beginning of, (121) 1042
Cystoma, polypous ovarian, (106) 2099
Cystoscope, determination of renal function by, (76) 868
  in diagnosis, (112) 75
  universal, demonstration of; purposes and attainments of cystoscopy, (72) 1109
Cystoscopes, modern, originality and priority in, (143) 1037
Cystoscopic pictures, (12) 865
Cystoscopy, (38) 1555
  and catheterization of ureters in children, (75) 1912—ab
  purposes and attainments of, and demonstration of universal cystoscope, (72) 1109
  what can be learned from, in regard to indications and prognosis for abdominal cancer operations? (116) 877—ab

- Cystostomy, suprapubic, perineal prostatectomy preceded by, in septic case, (129) 178—ab
- Cysts, bilateral ovarian, (43) 1468
  - chyle, of mesentery, (39) 1731—ab
  - dermoid ovarian, of unusual size, *2218
  - gas, of intestine, *1291
  - hydatid, of spleen, (43) 873—ab
  - in esophagus, multiple, (77) 2097
  - mixed ovarian, long delay before recurrence and generalization after incomplete operations on, (49) 1113
  - near bladder and prostate, (83) 1471—ab
  - of neck, branchiogenic multilocular, (56) 1380
  - of spleen, multiple, genesis of, (94) 2098
  - of spleen, non-parasitic, (131) 352
  - omental, retroperitoneal with retrovesical hydatid cyst, (41) 1284
  - papilliferous, of kidney, (108) 869
  - sub-pterygial, (123) 534
  - tuberculous, in corpus luteum, (136) 2198
- Cytologic examination of cerebrospinal fluid, results and prospects of, (72) 955—ab
  - findings in ocular tuberculin reaction, (74) 264—ab
- Cytosera and pneumonia infection, prophylaxis by, (118) 1560
- Cytosia, action of diazobenzene sulfonic acid on, (43) 1731
- Cytotoxin inducing fatty degeneration of ovary, (117) 177

D

- Dacryocystitis, congenital, (122) 1037
  - due to typhoid bacilli, (35) 946
- Dactylitis streptococci, (93) 949
- Damage on account of injury, duty of injured person to make as light as possible, (89) 793
- Dante: physician, (21) 1278, (18) 1372, (18, 23) 1462, (22) 1550
- Darwinism and diabetes, (5) 706—ab
- Deaf mutes, application of tests to, (21) 1644, (41) 2007—ab
  - mutism and general practitioner, (36) 1736
  - partially, lip reading for, 722—ab
- Deafness, catarrhal, removal of faucial tonsils for, (61) 624
  - chronic, how to distinguish varieties of, (18) 261
  - chronic middle ear, (95) 793—ab
  - dry catarrhal, nasal analgesia as prognostic symptom, *750
  - of non-suppurative origin, examination of vestibular apparatus in, (42) 1007
  - total, following infectious diseases, (127) 870
- Death after tapping ascites, (48) 1555—ab
  - apparent, resuscitation after, by oxygen and intubation, (132) 2198—ab
  - certification and verification, (11) 1111
  - certificates of causes and life insurance, (97) 1196—ab
  - from malignant endocarditis treated with colloidal silver, *1510
  - heredity and disease, (139) 1820
  - 100 laparotomies in country practice without, (49) 1374—ab
  - or removal of tuberculous patients, necessity of disinfection after, (16) 1184
  - relative, effect of complete anemia of central nervous system in dogs resuscitated after, (26) 2089
  - sudden, angioneurotic edema as familial cause of, (2) 2005—ab
  - sudden, following intravenous injections of blood corpuscles of foreign species, (53) 1903—ab
  - sudden, during pregnancy or puerperium, (155) 1037
  - sudden, in infant with enlarged thymus with three lobes, (66) 792
  - sudden, that may come to recently delivered mother, (115) 1733
- Deaths after spinal stovain anesthesia, (36) 1190—ab
  - at Basle, inebriety as cause of, (137) 1043
  - under anesthestics, prevention of, (33) 1378—ab
- Debility, pseudophosphaturia as sign of, (117) 1651—ab
- Debts which medical science owes to surgery, (132) 352—ab
- Decalcification of pregnancy, protracted, (52) 81—ab
- Decapitation, delivery of fetal head after, (33) 2001
- Decidua, structure of, (55) 2192
- Decompression, cerebral, principle of, (42) 1551—ab
- Decompression operation, in bursting fractures of skull, (30) 74
  - subtemporal, in chronic nephritis with uremia and neuroretinal lesion, (31) 1902—ab
- Decubitus, gangrenous, severe myelitis with, (83) 447
  - with prolapsus uteri, (140) 86
- Defense of body as illustrated by disease in children and adults, (43) 1284—ab
- Deep-seated processes, x-ray treatment of, (78) 264—ab
- Defectives, mental, in prison, (16) 354—ab
- Defensive arrangements of body as shown by incidence of disease in children and adults, (2) 353—ab
- Deformities, congenital, and congenital syphilis, (69) 1380
  - in limbs, (120) 634
  - of infantile paralysis, treatment of, (67) 1642—ab
  - treated by plaster-of-Paris and mechanical devices, (75) 1466—ab
- Degeneracy, moral, and alcohol, (94) 1466
  - stigmata of, anomalies of, (25) 707—ab
- Degeneration, adipose-genital, removal of hypophysis for, (103) 877—ab
  - amyloid, etiology of, (98) 266
  - phenomenon of, and healing in amyloid kidney, (93) 2098
  - spontaneous arterial, in rabbit, *1056
- Delirium-tremens, artificial auditory hallucinations in, (93) 1559—ab
  - treatment of, (10) 348
- Delivery: See also Labor.
  - after vaginofixation, (136) 1117—ab
  - by Müller's technic, (109) 541, (76) 1824—ab
  - by uterus-abdominal wall fistula, (185) 87—ab
  - Cesarean section vs. other methods of, in contracted pelvis, (9) 1377
  - complicated by elongation of cervix, (16) 2235—ab
  - danger with placenta prævia of natural straining to aid, and extraperitoneal Cesarean section to reduce, (112) 1651—ab
  - full term or abortion, gonococcus as factor in infection following, (59) 2091
  - in rabbits, experimental postponement of, (109) 266
  - mechanical obstruction to, intrapelvic vs. abdominal method of dealing with, (42) 623—ab
  - ovariotomy during, (84) 1739, (23) 2094—ab
  - perforation of cecum following, (107) 1377
  - premature, in home, pubiotomy and induction of, (76) 264—ab
  - solid fibroma of ovary obstructing, (13) 2190
  - spontaneous rupture of uterus at commencement of, (77) 631
  - under scopolamin morphin, (123) 1827—ab
- Delusions and paranoia, (68) 1193
  - of negation, three cases of melancholia with, (138) 170
- Dementia-præcox, *34, (26) 1038, (45) 1551, (89) 1643, (70) 2189—ab
  - and confusional insanity, (122) 1553—ab
  - early symptoms of, (36) 531—ab
  - etiology of, (1) 2185, (4) 2233—ab
  - in India, (38) 445
- Dengue, (83) 1281
  - prevention of, (38) 1038—ab
- Dental education, *275
  - needs of poor of London, (16) 261
  - plates, extraction of, from esophagus, (49) 1380
- Dentistry, state reciprocity in license to practice, *563
- Depression, morbid, and its treatment, (89) 358
- Dermametropathism and x-ray baths, (149) 535
- Dermatitis due to irritating effect of metol, (16) 1106—ab
  - exfoliativa, large doses of quinin in, (119) 1188—ab
  - exfoliativa neonatorum, (89) 533
  - from plants, (137) 85
  - from use of walnut juice hair dye, (71) 1035—ab
  - industrial, (21) 1038
  - occupation, (24) 1821—ab
  - of workers on cement, (41) 953-ab
  - universal, of children at breast, (22) 536—ab
  - x-ray, (45) 256
  - x-ray: its prevention and treatment, (166) 950, (24) 1283
- Dermatology and syphilis, (80) 710
  - carbon dioxid snow in, (75) 356—ab, (106) 1037—ab
  - recent, (39) 1555
  - static electricity in, (114) 449
- Dermatomycoses, tropical, (35) 1190
- Dermatomycosis common to man and animals, (17) 1644
- Dermoid, ovarian, multiple peritoneal pseudometastases of, (85) 1115
- Dermolysis—an undescribed dissolution of skin, (81) 710—ab
- Desessartz and Jean-Jacques Rousseau, (38) 173
- Desmoid reaction, (95) 1110
  - tumors of abdominal wall, (35) 1033
- Desquamation from sweating, *1328
- Detroit Academy of Medicine, deceased founders of, (107) 442
- Detrusor-paresis, (24) 1901
- Diabetes-mellitus, (52) 1185, (102) 1377, (136) 1820, (71) 1911—ab
  - amputation in gangrene due to, (13) 789—ab
  - and cholelithiasis, (116) 634
  - and Darwinism, (5) 706—ab
  - and glycosuria, diagnosis of, (114) 1282
  - and pregnancy, mutual relations of, (63) 1113—ab
  - conjugal, (6) 530—ab
  - cresco flour and gluten flour in, 932
  - elimination of sugar in, (135) 634
  - experimental, (54) 954—ab
  - from surgical standpoint, (126) 534
  - gallstones in etiology of, (29) 623
  - glycosuria, hyperglycemia, and glycolysis, (31) 2094
  - gout and rheumatism, diagnostic value of symptoms of upper air tract in, (61) 1280
  - in acromegaly and hypophysis glycosuria, (116) 1827—ab
  - in infants and children, (87) 1376—ab
  - last illness of King Oscar II., (121) 1652
  - metabolism in, (90) 625
  - oatmeal diet in, (136) 267—ab, (74) 1036—ab, (120) 1290
  - origin of, (71) 1470—ab
  - pancreatic and gallstones, (23) 2234—ab
  - pancreatic, and parabiosis, (107) 84—ab
  - pathology and treatment of, (1) 2189—ab, (10) 2235
  - phloridzin, action of glutaric acid on, (55) 954, (92) 1288
  - phloridzin, experimental research on, (87) 1649
  - produced by adrenalin, (44) 537
  - regimen in, (27) 1038
  - severe, due to syphilis, (63) 798
- Diabetic acidosis and treatment of diabetic coma, (82) 265—ab
  - acidosis, underlying chemical principles of, (27) 73—ab
  - coma, treatment of, and diabetic acidosis, (82) 265—ab
  - patients, effect of operations on, (69) 169—ab
  - prostatic disease in, (66) 258—ab
  - régime, (26) 1555—ab
- Diabetics, resistance of, to bacterial infection, (26) 1550
- Diagnosis, (56) 2188
  - abdominal, auscultation in, (3) 2234
  - accurate in abdominal diseases, observation of pathology on operating table necessary for, (140) 1906
  - and pathology, study of, should not lessen confidence in intelligent use of drugs, (82) 1186
  - and therapeutics, hold fast to that which is good in, (61) 1732
  - between spasdomic movements of face and neck, elements of, (20) 1730
  - case for, (57) 1732
  - differential, between complete and incomplete uretero-vaginal fistula, (61) 709—ab
  - difficulties of, (21) 1190—ab
  - of brain diseases, *461
  - of functional diseases, (28) 2186
  - physical, (155) 78
  - physical, importance of light percussion in, (65) 1375
  - value of reflexes in, (124, 130) 1037—ab
  - value of tele-radiography in, (13) 1283
- Diaphanoscopy and gastroduodenoscopy, (48) 713—ab, (159) 1476—ab
  - of eye, (133) 1188
- Diaphoresis in internal ocular affections, (120) 1037
- Diaphragm, heart and stomach, changes in outlines of, during respiration shown by x-ray, (123) 442
  - hernia of, (109) 633
  - injuries to, importance of early diagnosis and surgical treatment, (66) 709—ab
  - neurosis of, (115) 1741—ab
  - surgical importance of region below, (96) 2194
  - unilateral paresis of, with involvement of sympathetic due to traumatic paralysis of brachial plexus, (77) 1381
- Diarrhea, (21) 1372
  - choleriform, of cold weather, *1499
  - chronic dyspeptic, and chronic gastrointestinal dyspepsia, (86) 1559—ab
  - chronic, local and surgical treatment of, (15) 790—ab
  - compensatory, *467
  - epidemic, organism in, (7) 870-ab
  - in children from gastric achylia, (99) 2099—ab
  - in exophthalmic goiter, (119) 266—ab
  - in infants, (147) 1734
  - infantile, and dysenteric bacilli, (50) 76
  - infantile, character of stools and intestinal findings in, *1306
  - infantile, epidemic, (7) 1189—ab
  - lienteric, (87) 1186
  - on Boston floating hospital, summer 1907, (2) 1031—ab
  - puerperal, of Bengal, (5) 2005
  - summer, (98) 2189
  - summer, in children (135) 1282
  - summer, in children, treatment of, (138) 534, (117) 1042
  - summer, in infants and children, (137) 534
  - summer, in infants, treatment of, (24) 1372
  - treatment of, (131) 534
- Diastase in cat's saliva, (59) 350—ab
- Diastasis of left temporo-parietal articulation, fracture of base of skull with, ending in complete recovery, (73) 1818—ab
- Diathesis, influence of, on causation and treatment of diseases of eye, (19) 2190
  - neuropathic, as condition of headache and other functional diseases, (98) 793
- Diathetic states, study of, (7) 1461—ab
- Diazo reaction of normal urine, (76) 955
- Dickens' doctors and things medical, (80) 2189
- Dies caniculares, (7) 438, (5) 621
- Diet and digestion, (78) 1110—ab
  - and hygiene of children, (91) 2189—ab
  - antidiabetic, secretion from pancreas fistula and influence on it of, (68) 1380—ab
  - ash-free, and salt metabolism, *727
  - ash-free, experiments with, (37) 1463—ab
  - constant and daily variations in work of kidneys on, (133) 634
  - exclusive proteid, in certain digestive disorders, (20) 2006
  - in tuberculosis, (75) 1186
  - iodin-free, effects of feeding animals on, (146) 1111
  - in bronchial asthma, (20) 354
  - in infancy and childhood, (19) 712
  - milk, exclusive, treatment of obesity by, (92) 876—ab
  - milk-free fluid, in typhoid, (18, 19, 20) 73—ab
  - milk-vegetable, in pernicious anemia, (138) 1744—ab
  - nervousness in children and, (104) 1560—ab
  - oatmeal, in diabetes mellitus, (136) 267—ab, (74) 1036—ab
  - salt-free, indifferent results with, in infantile eczema, (84) 539
  - purin-free, limitations of, (6) 1906—ab
  - to reduce proportion of lime in arterial atheroma, (52) 2007
  - uric acid-free, mistakes which may prevent best results of, (9) 1371
- Dietetic and injection method of treating typhoid, (69) 792—ab
  - treatment of gastric ulcer, (91) 267—ab
  - treatment in dilatation of esophagus, (16) 255
- Dietetics as therapeutic measure, (67) 1375—ab
- Digestion and diet, (78) 1110—ab

Digestion and nutrition in early infancy, special characteristics of, (45) 1255—ab
  and secretion, effects of alcohol on (101) 793
  disturbances of, in infancy due to overfeeding of fat, (175) 950
  in infants *2125
  in infants, carrot soup in disturbance of, (73) 955—ab
  peptic laws of (87) 799
  proteid, and alkaloids (115) 352
  starch, in stomach and intestines, (44) 1555
  stomach, (47) 791
Digestive disorders, value of exclusive proteid diet in, (20) 2006
  disturbances in rachitis, (51) 2192—ab
  system, disorders of, vicious circles with, (5) 2189
  system, physiology of (73) 2004—ab
  Tract See Gastrointestinal Tract
Digitalin tablets, physiologic assay of *2130
Digitalis, indications and contraindications for, (69) 1552—ab, (62) 1732
  in pneumonia, *2214
  protracted use of, (5) 78
  treatment, chronic influence of, on heart, (99) 1741—ab
  use and abuse of, (27) 459—ab
Dilatation of stomach acute or duodenojejunal ileus? (71) 1648
Dilator Bossi's in dilatation of uterus in labor, (31) 872
Dionin in diseases of eye, (95) 1819
Diphtheria and chronic atrophic rhinitis relations between, (104) 1116
  and impetigo contagiosa in child, (5) 870
  and serum treatment, (70) 631—ab
  and tuberculosis eosinophilic cell occurring in hematopoietic organs in, (104) 869
  antitoxin in, (114) 793, (94) 1472—ab (114) 1914
  antitoxin, large doses, in, *918
  antitoxin, skin reaction to, *1510
  antitoxin, untoward results from, *1154
  bacilli, removal of diseased tonsils and adenoids to rid throat of, (66) 1280
  bacteriologic diagnosis of, (52) 1374
  bolus in, (100) 176
  carriers, (35) 1112
  cervical and submaxillary adenitis in convalescence from, (34) 2006
  circulatory disturbances of, *2121
  diagnosis, (58) 1108
  epidemic at Soro in 1908, and antitoxin prophylaxis, (129) 1914
  epidemic, in deaf mute asylum, (160) 1475
  experiences at Stettin with, (58) 174
  genital infection in, simulating puerperal fever, *965
  group of bacilli, variability in, (54) 2003—ab
  house epidemic of, toxic nervous affections following, (89) 1470
  in West Australia, (36) 1112
  laryngeal, (127) 260, (114) 1188
  laryngeal, intubation for, (79) 1912
  laryngeal, mechanical devices in treatment of, (82) 625
  leucocytes in, before and after administration of antitoxin, (74) 1186—ab
  local treatment of, (151) 1475—ab
  paralysis following, (111) 634—ab
  pyocyanase in (122) 1042, (91) 1288—ab, (81) 1649
  severe, adrenalin saline injections in, (90) 799
  sporadic, (73) 1552
  subsequent multiple neuritis of, with vesical involvement (13) 255
  paralysis following treated by serum, (6) 696—ab
  treatment of, at Cologne, 1900 8, (108) 1560
Diphtheroid throat affections, chronic, (51) 174
Diplegia and motor aphasia idiopathic epilepsy complicated by, *1778
Diplococcus immunizing properties of, cultivated on organ extracts, (125) 267
Diplopia, monocular, (25) 1283
Dipsomaniacs and inebriates Massachusetts State Hospital for, (82) 21[illegible]
Disability, significance of certain eye diseases and symptoms in (115) 1165
Disc choked, palliative trephining for, (113) 1475—ab
Disease, acute infectious eruptive, outbreak of (8) 1906
  and dust (17) 871
  and health, urobilin in stools in, (79) 1191
  and heredity, (1) 1820
  cause and nature of, history of conceptions of, (131) 178
  general, suggestions of pupil in, (78) 1902—ab
  heredity, and death, (109) 1820
  immunity to, (126) 1037
  in children and adults, defensive arrangements of body as illustrated by, (2) 253—ab, (43) 1281—ab
  infectious, leucocytic changes in blood in, physiologic importance of, (71) 174
  inherited or acquired tendency to, (160) 1289
  malignant, pathology of, (141) 442
  medicinal treatment of, sufficiency of official drugs and preparations in, *1477
  mental, differential diagnosis and treatment of, some forms of, (129) 1037
  mental states and oxygen in cause and cure of, (18) 1275
  organic, of nervous system, early diagnosis of, (9) 2193—ab
  personal factor in, (15) 1519
  street dust as factor in spread of, (120) 626
  transmissible, notification of, (65) 446
  tropical, febrile, (84) 1288
  types of, modern life and its effects on, (109) 442
  what does it mean? (28) 1372
Diseases abdominal, observation of pathology on operating table necessary for accurate diagnosis, (140) 1906
  classification of, apoplexy in, (7) 1371
  chronic, physiotherapeutics in, (67) 76
  connection between, (83) 955—ab
  contagious, municipal hospitals for, medical and financial importance to community, (64) 2091—ab
  diathetic and metabolic, (123) 260
  early clinical types of certain, (31) 1555—ab
  functional, diagnosis of, (28) 2186
  functional genitourinary, and venereal prophylaxis, (110) 1377
  in hospitals registration of, promotion of uniformity in, (15) 261
  industrial, international committee on, (23) 1038
  industrial, notification of, (20) 1038
  infections, relation of milk to, *1491
  infectious, bacilli carriers in transmission of, (35) 1038—ab
  infectious, colloidal silver in, (49) 3[illegible]
  infectious, growth of knowledge in, (118) 260
  infectious, serum treatment of, in Glasgow Fever and Smallpox Hospitals, (46) 1379
  internal, and female genitalia, (23) 1550—ab
  international classification of, its advantages, defects and deficiencies, (2) 1371—ab
  nervous, organic and functional, differentiation of, (125) 260
  of blood, (123) 260
  of domesticated animals communicable to man, (23) 1820
  of skin and other organs of body, (74) 792
  of spleen, (123) 260
  symptomatology of, in childhood, (93) 2189—ab
  tropical, in Mississippi Valley, (67) 2091—ab
  tropical, in Philippines, board for study of, (103) 1733
Disinfectant, change in concentration of, with variation in rate of disinfection, (31) 2190
Disinfection, methods for, (121) 1561
  necessity of, after death or removal of tuberculous patients, (16) 1184
  official, in rural districts, (47) 355
  of books, (61) 1108—ab
  room, (18) 438—ab
  variation in rate of, with change in concentration of disinfectant, (31) 2190
Dislocation and fracture of neck at sixth cervical vertebra in man of sixty, recovery, (10) 1815
  and fracture of second cervical vertebra, (8) 2185
  atlo-occipital, (32) 74—ab, (49) 75—ab
Dislocation, backward, of foot and extension dressing with flexed knee, (121) 430
  of hip, congenital, (51) 351, (70) 1648
  of hip, and congenital muscular rigidity, (80) 356—ab
  of hip joint congenital, treated by open operation, (137) 1282
  of hip congenital, treatment of, (2) 260—ab, (60) 1738, (48) 1822, (40) 2006
  of hip, dorsal, reduction of, (75) 1640—ab
  of hip, irreducible forward, operative treatment of, (43) 797
  of humerus with fracture, operative indications in, (58) 441, (65) 624
  of knee, congenital, operative reduction of, (89) 1471
  of metatarsus in Lisfranc's joint, (51) 1822
  of pelvis (78) 2007
  of shoulder, recurrent, successful operation for, (46) 624
  of shoulder, simple, traumatic, prognosis of, (71) 2193
  of tarsometatarsal joint, irreducible and old, surgical intervention in, (40) 629
  of ulnar nerve, recurrent, (38) 1372—ab
  simultaneous, of both shoulder joints (19) 629
Dislocations and fractures, treatment of, (1[illegible]) 1[illegible]—ab
  rare of shoulder, pelvis and hip, (47) 797
Dispensary, modern babies', (144) 1282
  practice, hyperemia in, (116) 1883
Dispensing versus prescribing, (78, 79) 1732
Dissections anatomic, preservation of, with permanent color of muscles, vessels, nerves and organs, by new method, *642
Diuresis methods of stimulating, (95) 1650—ab
Diverticula, congenital, of male urethra, histology and genesis of, (71) 1286
  intestinal pathology of, (43) 2005
  in trachea, (110) 266
  multiple of sigmoid, (12) 1906
  of male urethra, cases and treatment of, (79) 1114
Diverticulitis, acute, (142) 626
  acute, of sigmoid, with operation before rupture, *543
  and Diverticulosis, (90) 793—ab
Diverticulum Meckel's inflammation of simulating appendicitis, *2060
  Meckel's, in hernia, (31) 1467
  Meckel's, invagination of intestine from inward protrusion of, (99) 2194
  Meckel's, perforation of (72) 1193
  Vater's, melanoma of, and of lower portion of common bile duct causing complete obstruction, (152) 870
Doctor See *Physician*
Doctrines, old useful errors, (36) 797
Dog bites, (89) 1186
  days, (5) 530
  fish, spiny, globulin from egg yolk of, (49) 1731
  frequency of microsporon caninum or lanosum in, (25) 712
  ligation of parathyroids in results of chronic parathyroiditis as obtained by, (109) 869
  maximum of elimination of cresol in after administration of lysol, (119) 634
  peculiar cells on tonsil of, probable significance (98) 1913
  successful infection of with cultures of Leishmania infantum, *1423
Dogs, biochemical and anatomic changes induced in, by potassium cyanid, (11) 345
  resuscitated after relative death, effect of complete anemia of central nervous system in (25) 20[illegible]
Dorsey, J. S., secret of his success, (50) 168
Dosage by drops and its physical bases, (125) 1043
  comparative in children, (92) 2189—ab
Drainage, (71) 1552—ab
  and irrigation of bladder after prostatectomy, device for, (80) 94[illegible]—ab
  diffuse suppurative peritonitis treated without, (127) 1037
  intranasal method for opening frontal sinus and establishing, (67) 1552
Drainage, mechanism of, of normal accessory sinuses, (126) 870
  of ankle joint, method of, (59) 1185, (154) 1188—ab
  plea for, in abdominal and pelvic operations, (75) 2004—ab
  rectal, pelvic abscess with reference to, (139) 353—ab
  spool, rubber, for empyema of chest, (62) 1642
  vaginal or suprapubic, in acute diffuse peritonitis in women, (43) 1551—ab
Drains and tents, intrauterine, (96) 716—ab
Dropsy See also Ascites
  epidemic of, in Dacca, insane asylum, (38) 1737—ab
  normal pregnancy, and kidney of pregnancy, pathogenesis of eclampsia and, (52) 1647—ab
Drug action on internal secretion, and nerve antagonism, (175) 87
  and liquor addictions, neurasthenia and, (174) 171
  inspection and pure food (69) 2091
  store therapeutics, *421
  treatment in cardiovascular conditions, *1745
  treatment vs osteopathy, *2135
Druggist See Pharmacist
Drugs, action and elimination of, injected intravenously, (95) 540—ab
  action of, on blood serum, (84) 356—ab
  action of, on blood vessels, (65) 2003
  and preparations official, sufficiency of, in medicinal treatment of disease, *1477
  chemistry of importance of urea-carbonic acid for, (59) 797
  in tuberculosis, use and abuse of, (38) 1108
  individual, action of, obscured by mixtures, (57) 791—ab
  influence of, on internal secretion as affected by nerve action, (175) 87
  injected, temporary localization of, (91) 796—ab
  narcotic, dual action of, (112) 1466
  physiologic tests of (72) 264
  proportion of active principle in, prescribed in various forms, (72) 2009
  remedial measures in cardiac disease other than, (85) 1376
  self administration of, or does it pay to have physician? (65) 709
Drum membrane artificial, and exostosis in adults, (67) 792
Drunkard, habitual, treatment of, (17) 1377
Drunkenness, pathologic, (102) 1289—ab
Duct, common, permanent stenosis of, from inflammation or duodenal ulcer, (9) 530
  common, ruptured operation, recovery, (74) 1469
  hepatic, injury of, during cystectomy, (104) 20[illegible]
  lachrymonasal, imperforation of, in new born, *188
  nasal, treatment of strictures of, with lead styles, *1207
  thyreoglossal, cyst of, (34) 1640
Ductus arteriosus, patent, (8) 171, (29) 1559
Ducts Muellerian and Wolffian, development of, congenital unilateral absence of urogenital system and, (57) 798
Dulness paravertebral area of, in pleurisy, (98) 1472—ab
  paravertebral triangle of, (49) 1822—ab
  paravertebral triangle of, in pregnancy, (34) 1902—ab
Duodenal and gastric ulcers, (102) 260—ab, (77) 533—ab, (91) 1036
  and gastric ulcer, acute perforating, (42) 2190—ab
  and gastric ulcers, chronic, (171) 171, (110) 352
  and gastric ulcers, secondary to wounds of bladder, (105) 2[illegible]—ab
  glycosuria, negative experimental research on, (80) 1912
  ulcer, *556, (12) 795—ab
  ulcer, acute perforating, (106) 1819
  ulcer before age of ten, (78) 21[illegible]—ab
  ulcer, chronic, (51) 947
  ulcer, diagnosis and treatment, (26) 172—ab, (144) 554
  diagnosis of, (27) 2001—ab
  ulcer or inflammation, permanent stenosis of common duct from, (9) 530
  ulcer, prominent symptoms in diagnosis, *651

Duodenal ulcer, surgical treatment of, (159) 78
Duodenitis, phlegmonous, (128) 1474—ab
Duodenojejunostomy, chronic, gastro-mesenteric ileus cured by, (41) 1464
Duodenojejunal *fossa, hernia into,* (51) 1034
Duodenum, and stomach, benign diseases of, (160) 171
  and stomach, benign diseases of, end-results following operation for, (101, 103) 260—ab
  and stomach, direct visual inspection of, and diaphanoscopy, (48) 713—ab, (159) 1476—ab
  and stomach, hemorrhage from, (24) 167
  and stomach, round ulcer of, (77) 533—ab
  anemic spot on, which may be mistaken for ulcer, (126) 352
  diverticulum of, as cause of general jaundice, (81) 1381
  medical aspect of, (148) 1037
  occlusion of, (58) 1113—ab
  postoperative occlusion of, (68) 356—ab
  secondary occlusion of, acute paralysis of stomach with, (122) 717
  surgery of, (149) 1037
  ulcer of: See Duodenal Ulcer
  x-ray and anatomic study of, (73) 356
Dupuytren's contraction, surgical aspects of, (33) 439
Dust and disease, (17) 871
  in spermatic fluid, (126) 359
  removal in grinding trades, (19) 1038
  street, as factor in spread of disease, (120) 626
Dusty trades in Sheffield, mortality in, (16) 1038—ab
Duties and responsibilities of State society, (146) 1037
Dwarf growth and simple mitral stenosis, (52) 873—ab
Dysentery, (30) 707
  amebic, medical vs. surgical treatment of, *2140
  amebic, treatment of, on Isthmus of Panama, (14) 2234—ab
  asylum, and ulcerative colitis, (25) 1377
  bacillary, serum treatment of, (121) 442
  bacilli, and infantile diarrhea, (50) 76
  bacilli carrier, (115) 1289—ab
  bacilli, toxin and antitoxin of, (67) 954
  chronic, surgical treatment of, (20) 172
  is it sole cause of tropical liver abscess, (15) 1821—ab
  Madagascar plant as remedy for, (44) 1646
  santonin in, (55) 1469—ab
  toxin, production of immunity against, (19) 1735
  with intestinal amebas, but without hepatic abscess, (12) 1820—ab
  tropical, *573
Dysmenorrhea, (49) 531, (22) 1901
  and amenorrhea, tuberculin in, (117) 2012—ab
  etiology and treatment of, (94) 716—ab
  from traction on peritoneum, (109) 359—ab
  membranous, exfoliative endometritis, (42) 1279—ab
  nasal, (60) 264—ab
  treatment of, by forcible dilatation of cervical canal and application of Wylie drain, (93) 169—ab
Dyspepsia, chronic, gastrointestinal, and chronic dyspeptic diarrhea, (86) 1559—ab
  from intestinal fermentation, (65) 174—ab
  intestinal, (57) 174
  nervous, or dyspeptic symptoms due to eyestrain, (24) 623
  what does it signify? (111) 442, (77) 1732
Dyspeptics, thin, physiologic loss of weight in, (48) 1285—ab
Dyspnea and cyanosis, (118) 1734
  causes of, (16) 1111
  of gastric origin, (50) 953
  patients, x-ray inspection of thorax in, (65) 874—ab
  syphilitic, (173) 171
Dystocia, (136) 534: See also Labor and Delivery
  choice of methods of operation in, (4) 530—ab, (26) 1033—ab
  prevention of, (39) 1279—ab
Dystrophy and syringomyelia, (94) 1913—ab
Dystrophy, muscular, are there latent or rudimentary types of? (126) 178
  muscular, following acute polio*myelitis in infancy, (116) 949*
  muscular, progressive infantile, congenital muscular defects, and infantile disintegration of nuclei, (83) 1115—ab

E

Ear affections, balneotherapy in, (84) 715
  and nose, vaccine therapy in suppurations of, (85) 441
  cases, recent, (158) 1188
  catarrhal disease of, and adenoids, (99) 2005
  cerebellar abscess originating in, treatment, (9) 627, (138) 950
  cerebration deficient in chronic purulent inflammation of; cure by radical mastoid operation, (144) 950
  complications of influenza and their treatment, (50) 1468—ab
  cosmetic and plastic surgery of, (136) 1906
  deafness of non-suppurative origin, examination of vestibular apparatus in, (42))2007
  destruction of labyrinth of, for severe vertigo and tinnitus, (31) 1378
  diagnosis of brain abscess originating in, (93) 2092
  discharges, pathology of, (46) 81, (32), 537, *(40) 1379,* (41) 1468
  disease, paralysis of sixth cranial *nerve in, (20) 1467*
  diseases, lactic acid bacilli cultures in, (18) 348
  diseases, treatment of, (82) 441
  Eustachian catarrh with hyperinflation of tympanic cavity, (89) 1552
  eye, nose and throat conditions, faulty, effect on mental develop*ment of school children of,* (88) 1466
  eye, nose and throat, expert testi*mony and medical jurisprudence* as relating to, (111) 1377
  in mumps, *1961
  inflammation, chronic, purulent, fatal cavernous sinus thrombosis following, (34) 537
  instrument for treatment of disease of, (87) 1552
  internal inflammation, acute, of, (12) 1371
  internal inflammation, suppurative of, (77) 1649—ab
  intracranial lesions originating in, (62) 624, (131) 1734, (27, 28) 1820
  indications and technic for incising drumhead in acute otitis media, (111) 793
  indications for mastoid operation, (71) 868—ab
  labyrinth deafness with "tone island," (86) 441
  labyrinth of, non-acoustic functions of, (87) 2092
  labyrinth of, reactions of, and their significance in diagnosis of suppurative labyrinthitis, *1754
  lobule of, and scalp, recurrent keloid of, (86) 1552
  lobule of, and tuberculosis, (108) 177
  manifestations in inherited syphilis, (40) 81—ab
  meato-mastoid operation in chronic mastoiditis, *1062
  middle, acute infections of, importance of early diagnosis, (100) 626
  middle, aspirator for, (55) 1817
  middle, chronic deafness, (95) 793—ab
  middle, development of, (27) 1467
  middle, exploratory puncture of drum membrane in diseases of, (125) 1820
  middle, ignorance of significance of disease of, (19) 2089—ab
  middle, Inflammation of: See Otitis-*media*
  middle, sclerosis, *364
  middle, sinus thrombosis following removal of granulation tissue from; excision of internal jugular vein, (88) 1552
  middle, tube for self-insufflation of vapor into, (19) 1032
  middle, two points in development of, its contents, (42) 1646
  nose and throat complications of infectious diseases, (65) 2188
  nose and throat, diseases of, climate of north and north-west in etiologic and therapeutic relation to, (102) 1552
  Pain in: See Earache
Ear, sinus thrombosis and pyemia, (92) 1552
  speculum with handle, *1330
  symptoms of cardiovascular disease, *1594
  syringe for removal of foreign bodies and plugs from, (63) 1193
  thrombosis of sigmoid sinus and internal jugular vein originating in, operation for, (135) 950
  traumatic defects of, plastic restoration of, (66) 875—ab
  tuberculosis of, (12) 1278—ab
  tuberculosis of, inoculation treatment, (35) 80
  tympanic membrane of, permanent closure of large perforations in, with increase in hearing, (84) 441
  unusual mastoid operation in children, (90) 869
  work in Vienna, (116) 1733
  work, recent advancements in, through bacteriotherapy, (68) 1732
Earache, (63) 76
  surgical treatment of, (103) 626
  treatment of, without operation, (102) 626, (110) 793
Eating, interchange of gases and consumption of energy after, (110) 1826
Eclampsia, albuminuria and pregnancy, parathyroid treatment of, (119) 1651—ab
  antepartum, (51) 440
  blood pressure in, (35) 256—ab
  Cesarean section in; recovery of mother and child, (61) 947
  Cesarean section, vaginal, in, (69) 624
  decapsulation of kidneys in, (189) *87, (25) 261—ab, (147) 360*
  pathogenesis of, (145) 360—ab, (63) 1739—ab
  pathogenesis of, and normal pregnancy, dropsy and kidney of pregnancy, (52) 1647—ab
  placental origin of, (55) 1647—ab, (107) 2099—ab
  plea for prompt evacuation of uterus in, *2041
  puerperal, (37) 349, (52) 440, (20) 531, (45) 1185, (71) 1465, (86) 2189—ab
  puerperal, action of remedies usually employed in, (39) 349
  puerperal, suprarenal capsules in, (51) 81—ab
  toxin, attempt to determine, by experiment, (137) 359—ab
  treatment of, (91) 169—ab, (25) 261—ab, (38) 349, (133) 359—ab, (164) 950
  veratrum viride in, (16) 1377—ab
Ecology, therapeutics in light of, (130) 260
Ecthyma, acute, (79) 1280
Ectromelia, associated with other deformities, (45) 2002—ab
Ectropium, cicatricial of lower eyelid, *principles on which operation for* is based, (117) 352
Eczema and asthma, (67) 539—ab
  and vaccination, (79) 1381
  chronic, coal tar in, *497
  etiology and treatment of, (13) 353—ab, (16) 865
  in infants, salt-free diet in, (84) 539, (84) 1825
  nature and causes of, *1829
  Paget's, of nipple, with carcinoma, (40) 1555
Edebohl's Operation: See Kidney Decapsulation
Edema, angioneurotic, as familial cause of sudden death, (2) 2005—ab
  angioneurotic, Henoch's purpura and, (28) 261
  chronic inflammatory, of submucous tissues of nose, (58) 1039
  essential, angioneurotic and other examples of, in children, (41) 1817—ab
  general, of obscure origin, salt elimination in urine of individual with, followed by cure, (35) 2002
  generalized, of fetus, (6) 1038
  hereditary, of legs with acute exacerbations, (33) 262—ab
  nature and cause of, *830
  persisting since birth, (28) 872
Edestin test for pepsin, (92) 83
Edinger's theory of using-up of nerve cells, (123) 1914
Education, dental, *275
  higher medical, (187) 951
  ideal medical, (90) 259
  modern methods of, and effects on health of race, (140) 1553—ab
  of public, (90) 710—ab
  plea for more liberal one for medical student, (27) 1278
  public, *against* tuberculosis infection, (91) 1904
Eel serum, toxin and anaphylactic *substance of, (90) 1040*
Effusion, pleural, cholesterin crystals in, (121) 800
  pleural, insufflation of air in, (59) 1380—ab
  pleural, recurring, injections of air in, (55) 1738
  traumatic in knee, treatment of, (100) 2011
Effusions, pleuritic, influence of, on pulmonary tuberculosis, (64) 1910—ab
Egg white, sensitizing portion of, (51) 1731
  yolk of spiny dog fish, globulin from, (49) 1731
Eggs, idiosyncrasy to, (153) 86—ab
  of parasites, detection of, in stools, (61) 1193—ab
Egyptians, *prehistoric, syphilis in,* (3) 1038
Elbow, anchylosis of, arthroplasty for, (36) 2090—ab
  injuries at, (23) 790
  resection of, *technic for,* (119) 1384—ab
  resection with retention of function, (87) 1040—ab, (56) 1192
Electric treatment, lightning, influence of, on vitality of cells, (115) 1474—ab
Electricity, accidents from, suddenly fatal, 2100—ab
  and lightning, injuries from, (78) 715—ab
  cataphoric application of, (119) 1734
  high-frequency, and hysteria, (90) 2010—ab
  high-frequency, in cardiac disease, (2) 864
  in diagnosis and treatment of nerve injuries of upper extremity, (22) 1283
  in medicine, (82) 259, (69) 868
  necessity for, in reflex atrophies, (40) 537—ab
  static, and high potential currents, treatment with, (113) 1111
  static, and its therapy, (162) 950
  static, in dermatology, (114) *449*
  static, in nervous diseases, (70) 1465
Electrocardiogram of irregular pulse, (89) 1559
Electrocardiograms in diagnosis of heart disease, (118) 2012—ab
Electrolytic medication, treatment of skin diseases by, *(21) 1735*
Electrotherapy, (14) 1462—ab
  attitude of neurologists to, *13
  in tuberculosis, (17) 2234
Electrodiagnosis, (132) 950
Elephantiasis, congenital, (55) 630
  of scrotum, operative cure of, (36) 2187
  palliative treatment of, (117) 260, (21) 1906
  x-rays in, (145) 1820
Embolism, air, with placenta prævia, (123) 1561—ab
  and thrombosis, warning symptoms of, (145) 1043—ab
  of pulmonary artery, operative treatment, (96) 358—ab, (77) 539—ab, (54) 713—ab
  postoperative lung complications of, (57) 1556—ab
  pulmonary, *after radical operation* for inguinal hernia, (41) 629—ab
  pulmonary, clamping of large vessels near heart in operative treatment of, (76) 2097—ab
  pulmonary occluding, (37) 74—ab
Embryologic study of rare malformation, (120) 359
Embryology, pathologic, (142) 718
Embryoma, ovarian, (56) 538
Embryonal conditions in blood, re*trogression to,* (62) 174
Embryos, delicate unfixed, meso-photography and application to, (24) 1111
Emergencies, surgical, with tuberculous larynx, (106) 1552
Eminentia capitata, *fracture of,* (33) 1640
Emotions, pathology and physiology of, (8) 865
Emphysema, chondrectomy for, from rigidity of thorax, (51) 797
  in skin as accident from intubation, (58) 874
  of lung, operative treatment, (98) 83—ab
  of lungs and bronchial asthma, manual-mechanical *and* gymnastic treatment, (96) 540—ab
  pulmonary, and asthma, (102) 716—ab
Empyema, (50) 1185, (88) *1643*

Empyema and gangrene of lung complicating typhoid in child, (11) 257
  chronic, of frontal and anterior ethmoidal sinuses, optic neuritis due to, (65) 168
  chronic, treated by hyperemia and hypertransudation, (6) 1111—ab
  diagnosis and treatment of, (29) 707
  double, with drainage of both pleural cavities, (29) 1462
  etiology of, (41) 256
  etiology, symptoms, treatment and when to perform thoracotomy, (128) 1822
  frontal sinus, surgical principles essential to cure of, (89) 2092
  in children, (19) 172—ab
  in children, blood count in diagnosis, (109) 949
  irrigation of chest in, blood pressure lowering reflexes from, (26) 1816—ab
  maxillary, caused by foreign bodies in nose, cause of, (91) 1552
  maxillary, diagnosis and treatment of (24) 261
  maxillary, drainage of, (135) 78
  of chest, Henry's rubber drainage spool for, (62) 1642
  of sphenoid sinus, radical operation for *2108
  perforation of, in ethmoidal and frontal sinuses into orbit, complicating scarlet fever, (69) 1648—ab
  pneumococcus, 20 operative cases, (181) 951
  recurring, (44) 867
  surgical treatment of, (6) 789—ab
Empyemas, recent, application of Bier cup in *572
Encephalitis, curable, subacute, in tuberculous, (66) 2008
  influenzal, simulating tetanus, (83) 176
  multiple, with meningococcus meningitis, (84) 1115
  purulent meningitis and phlebitis of sigmoid sinus, jugular bulb and internal jugular vein, complicating mastoiditis, (83) 1552
Enchondroma in tendon sheath of finger (24) 712
Endarteritis, obliterating, (2) 347, (4) 437
  peripheral, (67) 1185
Endemic funiculitis, (4) 442—ab
Endoaneurismorrhaphy, statistics of, *1667
Endocarditis, (1) 437—ab
  bacillary, infantile, (35) 2094
  chronic, management of, during stage of compensation, (9) 348—ab
  chronic tuberculous, with tubercle bacilli, (58) 1738
  experimental, negative results of attempt to induce, with bacterial toxin, (97) 956
  malignant, (117) 1111, (1) 1644
  malignant, fatal, treated with colloidal silver, *1512
  phagocytic immunity and therapeutic injection of dead bacteria in, *1571
  ulcerative, vaccine therapy in, (36) 80
Endocardium, pocket formation in, with aortic incompetence, (103) 177
Endometritis, (59) 791
  and importance of plasma cells in inflammation, (132) 359
  chronic anatomy pathology and therapy of, (58) 2193—ab
  chronic gonorrheal, successful treatment of, (35) 167
  exfoliative, membranous dysmenorrhea, (42) 1279—ab
Endometrium, early relationship of sperm to, (2) 1276
  histologic changes in incidental to menstrual cycle, (39) 256
Endoscopy of uterus (56) 1469—ab
Endothelioma and primary carcinoma of appendix, (32) 439
  of ovaries and tubes, (76) 82—ab
  of pleura (3) 2000
  of scapula with removal of entire bone, *757
Endotoxins and toxins, (115) 450
Endovesical operations simple instrument for, (111) 717
Enemas saline, continuous, in peritonitis, apparatus for, *406
  nutritive, influence of, on gastric secretion, *315
Energy and life chemical rays promotors of mode of action and therapeutic use, (13) 1275
  and matter in vital processes, (56) 1647—ab
Energy, consumption of, and interchange of gases after eating, (110) 1826
Enophthalmos, traumatic (2) 951
Enterectomy, extensive, for gangrene, (3) 1189
Enteritis, epidemic of, caused by Liverpool virus rat poison, (15) 2190
Enterocele and inversion of vagina, radical operation for after vaginal hysterectomy, (121) 1742
  origin and treatment of, (89) 1912
Enterocolitis, treatment, (172) 1282
Enteroptosis, surgical phases of, (50) 531—ab
  types of, (25) 866—ab
Enterostomy for acute intestinal obstruction, (79) 74—ab
Enucleation, osteoplastic mediotarsal, (120) 717
Enuresis, causes and treatment, (94) 1613
Enzyme proteolytic of human milk, (49) 1903
Enzymes of fibrinous exudates—effect of one enzyme on another, (27) 1184
  of human pancreatic and intestinal juice obtained through jejunal fistula, (60) 1772
  of tuberculous tissues, (26) 1184
  proteolytic, viability of, in tissues, (105) 869
Esophagus, thoracic, surgery of, and positive pressure method of artificial respiration *805
Eosinophilia and trichinosis, (110) 78—ab
Epicondyle of femur, typical fracture of (46) 2095
Epidemic among cats micro organism causing, (61) 1469
  house, of diphtheria, toxic nervous affections following, (80) 1470
  of enteritis caused by Liverpool virus, rat poison, (15) 2190
Epidemics, diphtheria, and serotherapy, (70) 631—ab
  in Guam, history of, (45) 1108
Epidemiology and bacteriology in fight against typhoid, (58) 416
  of plague, insects in (24) 628—ab
Epididymis and testicle, indirect treatment of disease of, (20) 1554
  motility of spermatozoa in, *1424
Epididymitis, gonorrheal, (95) 77—ab
  gonorrheal, acute, operative treatment of, (15) 2001—ab
  orchitis and vaginalitis from sporotrichum beurmanni, (43) 1737
Epileptic Institute Company, *1860
Epileptics, transitory disturbances of consciousness in, (56) 1552
Epiglottis cartilage, retrogressive changes in, and their consequences, (135) 1043
Epilepsy and eyestrain, (112) 78, (150) 171
  and migraine, thyroid extract in, (78) 625—ab
  bitemporal hemianopsia after, subsidence of, (71) 1824—ab
  hydrocephalus, and tumors, puncture of corpus callosum in, (110) 1042—ab
  from reflex causes, in private practice, (16) 622—ab
  in private life, dietetic and drug treatment of, (64) 954
  idiopathic, complicated by motor aphasia and diplegia, *1778
  idiopathic, with paralysis, due to *germ?* (17) 73—ab
  menstrual reflex, hysterectomy for, (127) 1742—ab
Epilepsy, ophthalmic migraine and, *480
  surgical treatment of, (90) 1650—ab
  traumatic, anatomic findings in, (99) 1472—ab
  treatment of, (146) 171
  treatment of, with borax, (91) 1825
  voice sign in, (10) 1729—ab
Epipharynx, primary cancer of, (64) 1280
Epiphysis, lower, of tibia, fracture of (3) 1460
Epithelial tumors of skin and exposed mucous membranes (86) 710
Epithelioma, non cornified superficial, (73) 1648
  of heel, (44) 263
  of liver with cirrhosis, (120) 1384—ab
  of penis, ablation in one piece of, and its lymphatic territory, (52) 1738—ab
  of tar and asphalt workers, (22) 1038
  of pharynx, total extirpation of, with permanent esophagostoma, (3) 1815—ab
Epithelioma, primary, of maxillary antrum, (88) 441
  primary, of vulva, (115) 1383
  radium bromid in, *894
  squamous celled, (1) 1638
  x rays in, *1761
Epitheliomas of skin, unusual, *1308
Epithelium, atypical pavement, in cervix uteri, (52) 680
  ciliated, of respiratory organs, physiology and pathology of, (62) 2096
  embryonic, resistance of, to freezing with liquid air, (55) 2003—ab
  of Fallopian tubes in man and animals structure and functions of, (82) 2098
  of vagina, transplantation of, to cure erosions in portio vaginalis, (140) 1117
Epitympanum, contour and contents of, in relation to suppurative diseases, (58) 1280
Epizootic abortion biology of bacillus of (36) 712
Epulis pathology and treatment of, (91) 527
Equilibrium, static and dynamic, or [illegible] 912
Ergot, fluidextract of, physiologic [illegible] 2100
  uses in cases other than obstetrical, (19) 348—ab
Erosion, recurrent, traumatic of cornea due to lachrymal stricture, (118) 1905
Errors useful, old doctrines, (36) 797
Eruptions, bullous in children, (22) 1820
  eczematous and bullous, isolation of Klebs Loeffler bacillus in (25) 1820
  scarlatiniform, differentiation from scarlet fever (22) 2186
Erysipelas (55) 264—ab
  and scarlet fever (115) 1651—ab
  bacterial treatment of, (13) 1183
  in new born, (38) 629
  magnesium sulphate solution in, (91) 259—ab
  opsonic index in (26) 256
  primary, of pharynx, *316
  three signs for diagnosis of, (25) 1736—ab
  treatment of, (13) 348 (9) 794—ab
Erysipeloid of Rosenbach, (48) 167
Erythema figuratum perstans, *1936
  multiforme with visceral lesions, (4) 1031
Erythrodermia desquamativa, (22) 536—ab
Erythromelalgia (122) 2012, *2157
  Raynaud's disease, and allied conditions, in relation to vascular disease of the extremities, (39) 1902—ab
Esmarch Silvestri technic, modifications in blood in preventive hemostasis with, (125) 178
Esophagoscope and bronchoscope, for location and removal of foreign bodies, (132) 1734
  as diagnostic and therapeutic aid in esophageal obstruction, (14) 622—ab
  bronchoscope and gastroscope, use of, (16) 790—ab
Esophagoscopy, (23) 172 (24) 348, (24) 439, (178) 951, (139) 1731
  and bronchoscopy, (102) 793
  bronchoscopy and laryngoscopy, (26) 1467
  results of, (49) 1389
  simplification of, (72) 1738
  technic of, (114) 177
  tracheobronchoscopy and gastroscopy, (19) 622
Esophagostoma, permanent total extirpation of lower pharynx for epithelioma, with, (3) 1815—ab
Esophagostomy and resection of esophagus and lesser curvature of stomach following osteoplastic resection of costal arch, (33) 1730
Esophagus and lung, fistula between, (66) 1114—ab
  and stomach, bismuth in diagnosis of, *conditions of,* (16) 1283
  and stomach, operations on, pathologic conditions and results of, (17) 1283
  congenital atresia of, with esophagotracheal fistula, etiology of, (105) 177
  dilatation of, dietetic treatment in, (10) 255
  foreign bodies in, (35) 1555, (125) 2197—ab
  larynx and trachea direct examination of, (25) 1467, (3) 2005
  malformation of, congenital, (54) 76
  multiple cysts in, (77) 2097
Esophagus, obstruction of, diagnosis of (63) 1465—ab
  obstruction of, esophagoscope as diagnostic and therapeutic aid in, (14) 622—ab
  obstruction of, malignant, (20) 1190
  operation on low diverticulum in, (107) 541
  pathology of mucosa of human, (131) 1043
  resection and plastic operations on, especially for carcinoma, (53) 1556
  stenosis, caustic of, cured by esophagoscope, (78) 712
  stenosis, functional, at cardia, (61) 168
  stenosis of, further aid in diagnosis of, (23) 1640—ab
  stricture of, (76) 792
  trachea and stomach, direct inspection of, (18) 2186
  traction diverticulum of, pathogenesis of, (106) 177, (97) 266
  x ray examination of, (18) 1901—ab, (16) 2090
Ether, administration of, *1574, (14) 1639—ab
  administration of, by open method, (14) 711
  and chloroform, anesthesia by, (14) 789, (105) 1110
  and chloroform, value of warming vapor of, (67) 624
  anesthesia, (132) 793
  apparatus for administration of, (67) 1280
  freezing microtome, compact, (126) 1553
  prevention of vomiting during first whiffs of, (118) 717—ab
Ethics (99) 1377
  medical, duties of physicians, (189) 171
  professional, adding grain of salt to, (165) 950, (119) 1111
Ethmoid, antrum and sphenoid, submucous resection of lateral nasal wall in chronic empyema of, *1136
  cells at birth and their development during fetal life (14) 1799
  disease, ocular symptoms of, (125) 1905
  perforation of inner corner of eye and involvement of maxillary antrum, *1325
Ethyl chlorid for general anesthesia, (43) 173—ab, (59) 446, (51) 693, (29) 2089—ab
Eucalyptol injections in tuberculosis, (64) 1557
Eupraxia, relative, with right hemiplegia, (94) 1115
Eupyrexia, (10) 1639—ab
Europe, *criminal* procedure in countries of, (16) 2001—ab
  postgraduate study in (110) 1466
Evil tendencies in medicine and surgery, (18) 2234—ab
Evolution of preventorium, (28) 444—ab
Examination, careful, in diseases of rectum with proper instruments, (93) 1036—ab
  external antepartum, (29) 1033
  physical, (47) 1551
  physical, routine, value of, *2078
Exercise, active, peripheral action of, on circulatory disturbances with fat heart and allied conditions, (82) 1559—ab
  and rest in tuberculosis, (1) 2233—ab
  mechanical, and cold, influence of, on sugar excretion in phloridzin glycosuria, (71) 350—ab
  muscular, and oxygen as form of treatment, (7) 1554—ab
  therapy, Frenkel's, improvement of peripheral centripetal neuron in tabes by, (81) 955—ab
  violent, important surgical injuries brought on by, (3) 412
Exercises, auxiliary, and carbonated mineral baths, treatment of chronic diseases of the heart by, (77) 1110—ab
Exophthalmic goiter, (134) 267—ab, (90) 1381—ab, (1) 530, (23) 1736
  action of lecithin in, (43) 1464—ab
  and psychic factor in, surgery of thyroid, (75) 1375—ab
  and Raynaud's disease, (128) 178—ab
  and thymus, (63) 256—ab
  and thyroidism, blood findings in, (70) 1558—ab
  Charcot type of, (27) 1739
  development of knowledge of, *1119
  diarrhea in, (119) 266—ab
  diphtheria antitoxin in, (60) 1818

- Exophthalmic goiter, examination of blood in, (68) 1286—ab
  - fatal asystole in, (52) 538—ab
  - from medical standpoint, (1) 1276—ab
  - hereditary, (101) 1116—ab
  - importance of persisting thymus in, (111) 1289—ab
  - in man aged fifty-two, hypertrophy of mammæ in, (96) 956
  - medical and surgical treatment of, (48) 2090—ab
  - medical treatment of, (51) 1185
  - palsy of extraocular muscles in, (99) 442
  - partial thyroidectomy in, (89) 1110—ab
  - pathology and treatment, (4) 1189, (35) 1821
  - plus surgical lesions, (50) 1465—ab
  - prognosis of operative treatment of, (59) 1648—ab
  - surgical and anatomic study of, (156) 360
  - surgical aspects of, and psychic factor, (100) 260—ab
  - surgical treatment of, (70) 714—ab, (35) 873, (102) 1819, (16) 2006
  - treatment of, (76) 539—ab, (160) 950, (2) 1183—ab, (40) 1641, (173) 1904—ab
  - x-ray in, (139) 1474—ab, (3) 1638—ab, (28) 1907
- Exophthalmos as complication of accessory cavity disease, (44) 1374
  - of three years' duration cured by removal of middle turbinate, (134) 1037
  - tachycardia and tremor following extirpation of tuberculous glands in neck, (27) 2186
- Exostoses, gonorrheal, of os calcis, (13) 1371
- Exostosis and artificial drum membrane in adults, (67) 792
- Ex-patients, suggestions to, (138) 260
- Experimentation, animal, passive hyperemia in, (73) 264—ab
- Expert testimony and alienist, (3) 530—ab
  - testimony, supposed evils of, (2) 530—ab
- Extension, transverse and longitudinal, easily improvised apparatus for, (73) 1287
  - without use of weights, for fractures, (17) 790—ab
- Extrasystole, (24) 795
- Extremities: See also Arms and Legs
  - crushing injuries of, (136) 170
  - functional paresis of, new sign of, (23) 2236—ab
  - *mutilated, conservative treatment of*, (98) 1904
  - trophic lesions occurring symmetrically on, (8) 2234
  - vascular diseases of, Raynaud's disease, erythromelalgia, and allied conditions in relation to, (39) 1902—ab
- Exudates and transudates, differential diagnosis between, by Rivalta test, (137) 718—ab, (94) 956—ab
  - and transudates, differentiation of, (121) 1384
  - fibrinous, enzymes of, effect of one enzyme on another, (27) 1184
- Exudative diathesis, (83) 533—ab
- Eye: See also Special Structures
  - affection from artificial fertilizer, (129) 1117
  - affections of lachrymal glands and their treatment, (110) 449
  - affections, phlyctenular, and tuberculin, (103) 1383—ab
  - **affections, serotherapy in, (81) 539**
  - and brain complications of anemia and relationship to thrombosis, (26) 1378—ab
  - and cardiovascular disease, *212
  - and nose abnormalities, reflex neuroses arising from, (12) 1815—ab, (72) 2189
  - and skin pigment, staining technic for showing, and its colorless preliminary stages, (114) 1473
  - aniridia, case of, (136) 1037
  - artificial, restoration of the conjunctival cul-de-sac for insertion of, *1070
  - atropin solution in, unusual constitutional effects of, (153) 171
  - blindness following injection of protargol in lachrymal sac, (101) 442
  - cataract extraction, (39) 445—ab
  - cataract extraction, after-treatment of, (135) 442
  - ciliary region of, diagnostic value of tenderness in, (63) 441
  - clinics, European, (142) 1820
- Eye, commoner inflammatory diseases of, and their diagnosis, (79) 1818
  - complete congenital opacities of both cornea, (50) 867
  - complete peripheral capsulotomy of, (137) 1037
  - complications in disease of nasal accessory sinuses, surgery of, *299
  - complications of epidemic cerebrospinal meningitis, cultivation of *meningococcus from, (101) 1466*
  - complications of pregnancy, *204
  - complications, serious, with sinusitis, (109) 1819
  - conditions in public schools, (5) 789—ab
  - conditions, serious, immediate treatment of, by general practitioner, (2) 789—ab
  - consanguinity and disease of, (111) 1187—ab
  - corneal diseases, (15) 73
  - crises in tabes, (118) 1474—ab
  - cycloplegics in refraction, (99) 793
  - cytoreaction to tuberculin, beginning of, (121) 1042
  - dacryocystitis due to typhoid *bacilli, (35) 946*
  - defects associated with general disease, (16) 952
  - department of St. Luke's hospital and Northwestern Medical School, operations in, (55) 791
  - dermoid tumor of conjunctiva, (12) 438
  - developmental deformities of crystalline lens of, *1051
  - diagnostic importance of inequality *of pupils of, in general paralysis*, (39) 953
  - diaphanoscopy of, (133) 1188
  - diaphoresis in internal affections of, (120) 1037
  - dionin in diseases of, *(95) 1819*
  - disease, increasing importance of tuberculosis as cause of, (120) 1282
  - disease, tuberculosis, diagnostic and therapeutic value of tuberculin in, (121) 1282
  - disease, vibratory massage in, (134) 1188
  - diseases, (40) 946
  - diseases and symptoms, in relation to disability, (115) 1466
  - diseases, influence of diathesis on causation and treatment of, (19) 2190
  - diseases, opsonic method and vaccine therapy in, (38) 80
  - diseases, relation of disease of accessory nasal sinuses to, (25, 26) 1283
  - diseases, serotherapy in, (29) 1283
  - diseases, vision in, (136) 442
  - ear, nose and throat conditions, faulty effect on mental development of school children of, (88) 1466
  - ear, nose and throat, and expert testimony and medical jurisprudence, (111) 1377
  - ear, nose and throat work in Vienna, (116) 1733
  - ear, nose and throat work, recent advancements in, through bacteriotherapy, (68) 1732
  - *enucleation, indication for, and its* substitutes, (78) 441
  - etiology and treatment of chronic conjunctivitis, (75) 447—ab
  - external muscles of, importance of motor disturbances in, for localization of focal brain affections, (84) 447—ab
  - foreign bodies in, (79) 441, (56) 1375
  - extirpation of lachrymal sac, (7) 442
  - fundus of, examination of, by transillumination of orbit from nasopharynx, (76) 356—ab
  - glioma of retina of, enucleation and recovery, (140) 1037
  - globe of, migratory ophthalmia and *injuries of*, (122) 534
  - hemorrhage in front of retina, (67) 1818
  - hemorrhages of, and high arterial pressure, (104) 1733—ab
  - hygiene of, in school children, (44) 623—ab
  - import of opsonins in, (38) 946
  - in diagnosis of systemic diseases, (53) 440
  - infection with diseases of sinuses contiguous to orbit, (112) 1905
  - injuries of, by foreign bodies, (114) 534
  - injuries, penetrating, recent, by pieces of steel, treatment of, (119) 1037
- Eye, inner corner of, ethmoidal perforation of, and involvement of maxillary antrum, *1325
  - isolated paralysis of external rectus muscle of, with otitis media, (74) 539
  - kerato-conus, case of, (136) 1037
  - lens, displacement other than traumatic, *492
  - lens, influence of ultra-violet light on, (142) 170
  - *manifestations of disseminated sclerosis*, (80) 1036
  - manifestations of organic diseases of brain and spinal cord, (97) 1643
  - movements, reflex, as a differential sign in ocular paralyses, (113) 1188
  - neuroretinal lesion of, subtemporal decompression in chronic nephritis with uremia of, (31) 1902—ab
  - nutrition and metabolism of, (125) 85
  - obstruction, (35) 629
  - orbit, bullet wounds of, and its surrounding parts, (98) 442
  - opacification of cornea following cataract extraction, *296
  - *palsy of extraocular muscles of, in* exophthalmic goiter, (99) 442
  - physiology and pathology of play of pupils, (62) 954
  - piece of steel in, for seventeen years, (154) 950
  - piece of steel weighing less than milligram removed from, with normal vision, (102) 1466
  - probable congenital circumscribed defect in chorioid with anomalous pigment and vascular arrangement, (120) 352
  - prognosis of injury of cornea, (123) 450—ab
  - protective influence of iris in per*forated wounds of cornea of*, (138) 1037
  - pupil, general pathology of, (122) 352
  - pupils, convergent reaction in reflex immobility of, (56) 630—ab
  - rare case of persistent pupillary membrane, (130) 1282
  - reaction to tuberculin, (130) 78, (68) 82—ab, (170) 87, (13, 14) 166, (22) 348, (58) 350—ab, (114) 352, (30) 354, (16) 438—ab, (30) 537, (120) 870, (107, 108) 877, (88, 90) 540—ab, (115) 634, (32) 639—ab, (120) 870, (107, 108) 877, (17) 952, (95) 956, (8, 9, 10) 1031, (102, 147) 1037, (55) 1039, (41) 1112, (86) 1115, (47) 1192—ab, (93) 1195, (99) 1196, (82) 1376—ab, (84) 1381, (104) 1644, (118) 1651, (20) 1736—ab, *1756, (28) 1816—ab, (60) 1818, *1836, (88) 1904
  - reaction to tuberculin and allergy test, (87) 176
  - reaction to tuberculin, dangers of, (90) 447, (109) 717—ab, (11) 871—ab, (141) 1043, (98) 2011—ab
  - reaction to tuberculin in cattle, (22) 1184
  - reaction to tuberculin in guinea-pigs, (16) 1901—ab
  - reflex disappearance of radial pulse during pressure on eyeball, (113) 2011
  - refraction in Indians fresh from plains, *308
  - refractive and muscular condition of, and headaches, (159) 1188
  - retina, treatment of detached, (89) 77
  - *right, sarcoma of*, (119) 352
  - sarcoma of chlorid, (124) 1188—ab
  - sarcoma of ciliary body showing unusual manifestations of malignancy, (126) 1188
  - serious condition of, frequently first seen by general practitioner, immediate treatment of, (2) 789—ab
  - siderosis of, caused by piece of iron-scale which x-ray failed to locate, (100) 1466
  - sockets, contracted, restoration of, (121) 352
  - suggestions of pupil of, in general diseases, (38) 1902—ab
  - surgery, cosmetic, (109) 534
  - symptoms of brain tumors, (85) 1036—ab
  - symptoms of cerebral concussion, contusion and compression, (85) 1466
  - symptoms of ethmoid disease, (125) 1905
  - therapeutics, value of *morphin* derivatives in, (18) 531, (139) 1037—ab, (71) 1643—ab
  - throat, nose and accessory cavities, affections of, (77) 1471—ab
- Eye, to clear cornea of opacity from metalic caustics, (76) 447—ab
  - transillumination of, (141) 170—ab
  - traumatic rupture of, and defects of Descemet's membrane, (35) 349
  - treatment of immature cataract in, (7) 951
  - tuberculosis of, (152) 1037, (122) 1282
  - typhoid toxin reaction, (89) 540—ab
  - unilateral congenital fistula of lachrymal sac of, (34) 946
  - unilateral optic atrophy, with hemiplegia, (10) 79
  - zonula ciliaris and its relation to neighboring structures, (123) 352
- Eyeball, anterior half, resection of, after injury, (87) 876
  - contusion of, with reference to traumatic aniridia and aphakia, (127) 1282
  - injuries, commoner forms of, (83) 1036
  - penetrating wounds of, better prognosis in, *312
  - pressure on, disappearance of radial pulse during, (113) 2011
  - *treatment of commoner* penetrating wounds of, (90) 1110
- Eyelid, accessory, (105) 1614
  - lower, cicatricial ectropium of, operation for, (117) 352
  - simplification of De Grandmont's operation for ptosis of, (84) 2004
  - wire elevator, for prevention of loss of vitreous humor in extraction of cataract, (180) 171
- Eyelids, granulated, complications and treatment, (76) 2091
  - streptococcus infection of, treated by antistreptococcus serum, (15) 443
- Eyes, adjustable lens for oblique *illumination of, (14) 2000*
  - and tobacco, (70) 76—ab
  - balance of, and errors of refraction bearing on general health, (33) 349
  - iron splinters in, (140) 718
  - treatment of, for headache, (45) 2007
- Eyestrain, (66) 2188
  - and epilepsy, (113) 78, (150) 171
  - as cause of headache, (64) 1035
  - attitude of general practitioner toward, (24) 1278
  - nervous dyspepsia due to, (24) 623

F

- Face and head, growth of, (95) 1472
  - and neck, spasmodic movements of, elements of diagnosis between, (20) 1730
  - and nose, non-specific ulceration of bones of, (62) 1465—ab
  - and skull, symmetry of, and torticollis, (83) 1194
  - localized emaciation of, (91) 447
  - plastic surgery of, (139) 870
  - reconstructive surgery of, (125) 442
- Fallopian-tube and ovary, hernia of, complicated by strangulation of intestine, (11) 944
  - endothelioma of, (76) 82—ab
  - ileus from constriction of intestine by, (81) 632
  - inflammation of, treated by operation, (91) 1613—ab
  - inflammatory proliferation of mu*cosa in, (119) 1712*
  - obliteration of, after resection, (31) 712
  - primary carcinoma of, (26) 952
  - removal of, by vaginal route, (91) 358—ab
  - Vater-Pacinian corpuscles in, (135) 359
  - right, and appendix, abnormal position of, *1598
- Fallopian-tubes and ovaries, conservative surgery of, (135) 1111, (66) 1465—ab
  - and ovaries, operations on, (78) 259—ab
  - and uterus coexistent with testicles in tunica vaginalis, (63) 81
  - and uterus, tuberculous process in, and myoma, (96) 1826—ab
  - hypoplasia of, and extrauterine pregnancy, (138) 2198
  - infection of, (154) 1037
  - old pus, special structures in, (63) 1380
  - pus in, (23) 1107—ab
  - structure and function of epithelium of, (82) 2098

Family diseases premature physiologic senescence localized to certain organic systems, (10) 443—ab
Faradic stimulation calibration of inductorium for break shocks in, (69) 950—ab
  stimulation variable factors involved in (69) 350—ab
Fascia Pfannenstiel's transverse incision of, advantages of, (82) 875
Fasting, therapeutic, in typhoid, *191
Fat, absorption of, under pathologic conditions in man and animals, (114) 1826
  digestive disturbances in infancy due to overfeeding of, (175) 930
  high percentages of, in infant feeding, *1219
  importance of different proportions of, in breast milk in respect to thriving of infant (56) 874
  in infants, metabolism of, (92) 1036
  increase of proportion of, in breast milk during ingestion of fat, (55) 873—ab
  subcutaneous necrosis of, (130) 1471—ab (140) 1743
Fatness influence of, on susceptibility to Caisson disease, (75) 2190—ab
Faucial pillars congenital detachment of, and isolation of palatoglossus muscle, (132) 870
Favus (11) 78
  universal, (66) 798
Feces bacillus longus in, and its significance, (95) 176
  examination of, as aid to diagnosis, (37) 1108
  examination of as routine procedure, (69) 1035, (148) 1188
  precipitin test for biologic research on (110) 2011
  result of 300 examinations of, for amebas, (46) 1108—ab
Fee bill why Pierce County, Wash, should abolish, (117) 78
  bills medical, (108) 793—ab
Feeblemindedness, and alcohol, (24) 1796
Feeding, Infant: See Infant Feeding
  laboratory and range of resources it provides (86) 1376—ab
  of tuberculous patients (151) 78
  the sick, principles of, (80) 955—ab
Feet See also Foot
  painful, diagnosis of (46) 791—ab
Fehling's solution, rapid and precise determination of terminal reaction in titration of sugar with, (93) 1988—ab
  saccharometer for use with, *496
Fellow, other, (103) 1037
Felon milkers (117) 717—ab
Female See Woman
Femur and pelvis fractures trauma of kidney and impaction of pubic arch in bladder, (87) 948
  epicondyle of, typical fracture of, (46) 2005
  fracture of, (76) 1648
  fracture of, in infant (92) 1643
  fracture of in new born, (15) 79—ab, (16) 711—ab
  fracture of neck of in adults operative treatment of, (38) 2090—ab
  fractures of shaft of operative treatment of (39) 1379—ab
  fracture of shaft of, splint for (69) 2003
  fracture of shaft of treated by open method, (68) 2003—ab
  fractures of, treatment of, (113) 960 (59) 2090—ab
  fractures true, of neck of in young (76) 1114—ab
  head of and iliopsoas, abscess between (40) 2191—ab
  sarcoma congenital, of, cured by operative and x ray treatment, (70) 1986—ab
Ferment action and immunity, (74) 875
  activity of gastric contents, estimation of, (3) 710—ab
  proteolytic leucocyte, importance of in pathologic physiology, (90) 909—ab
  proteolytic leucocyte, influence of human blood serum on, (103) 84
  reversions in metabolism, (25) 1816
Fermentation in stool, apparatus for determining (168) 87
  intestinal, dyspepsia from (65) 174—ab
Ferments of digestive canal (45) 2192
  proteolytic, of large lymphocytes in acute leukemia (21) 1184
  lactic as therapeutic agents, (12) 1566
Ferments secretion of, in stomach and pancreas action of hydrochloric acid on, (71) 875
  soluble (34) 796
Ferricyanid method for determining presence of gas in blood, (99) 83
Fertilizer, artificial, eye affection from, (129) 1117
Fetus and infant, shape of ureters in, (63) 788
  bronchiectasis in, (50) 81
  death of, in labor, (92) 77—ab
  delivery of decapitated head of, (33) 2001
  ethmoid cells in at birth and their development during life of, (14) 1729
  generalized edema of, (6) 1038
  living, procedure suitable for cases of extrauterine pregnancy with, (57) 1375
  ophthalmia of, (78) 631
  relation between weight and age in *919
  retrouterine sensory corpuscles in, (19) 81
  stab wounds of, in uterus, (56) 791—ab
Fever, hysterical, (98) 1826
  intermittent or prolonged, with tertiary visceral syphilis, (60) 1193—ab
  nature and treatment of, (17) 531
  obscure, in infancy and childhood, (3) 347—ab, (86) 869—ab
  protracted in syphilitic liver affections, (66) 1193—ab
  puerperal (53) 624, (104) 1037—ab, (92) 1038
  puerperal, diphtheritic genital infection simulating, *965
  puerperal, prevention of, (112) 1473—ab
  relapsing, complement binding in, (79) 539
  Rocky Mountain spotted (7) 2088
  Scarlet See Scarlet Fever
  seven day, of Indian ports (26) 354
  three day, virus of, (63) 1823—ab
Fevers continued, (125) 793
  continued, of Philippines, (81) 169
  differential diagnosis of, (2) 1282—ab
  of intestinal origin in children, (140) 1906
  spirillar, recent work on (17) 865
Fibers connective tissue, in mucosa of uterus (54) 1646
  elastic, improved technic for determination of, (148) 1044
Fibrils contractility of, relation of ions to (66) 350
  epidermal, in classification of malignant growths (101) 869
Fibrillation, auricular, paroxysmal tachycardia and auriculoventricular extrasystoles, (81) 2004
Fibroelastomyxoma of heart and casuistic study of heart tumors especially myxomas, (103) 1913—ab
Fibroid degeneration of appendix, (105) 1037
  solid of ovary obstructing delivery, (13) 2190
  symptomless uterine, conservative surgeon and, *972
  uterine, general pathologic conditions with (48) 2188—ab
Fibroids complicating pregnancy, labor and puerperium (74) 258
  hysterectomy abdominal, for, in London (11) 443
  of uterus operative and non operative, (7) 1815—ab
  relation of carcinoma of uterus to, (2) 1461—ab
  uterine, showing peritheliomatous changes late recurrence after operation (12) 2190
Fibrolysin in cicatricial pyloric obstruction, (3) 1111
Fibroma, calcified, of orbit, (101) 1643
  of abdominal wall, (45) 75, (129) 1553 (126) 1742
  of skin, multiple, in pregnant woman, (99) 1876
  of trachea, (132) 78, (39) 440
  ulcerated in anterior wall of vagina, (54) 2007
Fibromata, uterine, pregnancy, complicated by, in hemiplegia, (134) 442
Fibromyoma of round ligament, (57) 1465—ab
Fibromyomata and vascular system, (45) 1379
  of uterus and anemia, *1395
Fibula and tibia, compound comminuted fracture of treatment, *2057
Filariasis as it appears in Queensland, (34) 1112
  nocturna, (55) 1652—ab
Filtering beds, properly constructed, (9) 941
Filtration system, intermittent continuous, (152) 1906
Finger, enchondroma in tendon sheath of, (24) 712
  joints, congenital familial dermatogenic contracture of (82) 1825
  plethysmography and turgosphygmography, (53) 2006—ab
Fingers congenital ankylosis of, with brachydactylia, (81) 1287
  fractured, treatment of, (80) 175
  fusion of, with hemimelia, (45) 355
  gangrene of (78) 710
  infectious ulcerations of, (61) 446—ab
First aid courses what should be taught regarding the dangers of, infectious diseases in, (67) 356—ab
  package, improved, for field, (123) 267
  packets, individual, of principal armies of world, (98) 1733
Fishberries poisoning from, used as abortifacient, (101) 2099
Fistula anal, (75) 2189
  anal, advantage of elastic ligature in cases of, (29) 1107—ab
  between lung and esophagus, (66) 1114—ab
  esophagotracheal, congenital atresia of esophagus with, etiology of, (105) 177
  in ureter, atrophy of kidney with, (67) 1739—ab
  jejunal enzymes of human pancreatic and intestinal juice obtained through, (60) 1732
  pathology of, between stomach and colon (97) 448—ab
  of labyrinth caloric nystagmus test in (108) 1389
  pancreatic secretion from and influence on it of antidiabetic diet (68) 1980—ab
  pancreatic physiology and pathology of secretion of, (81) 1559—ab
  rectovaginal, imperforate anus with, *670
  unilateral congenital, of lachrymal sac (31) 946
  ureterovaginal complete and incomplete differential diagnosis (61) 709—ab (88) 948—ab
Fistulas, diagnosis and treatment of, (60) 76—ab
Fistulous tracts tuberculous, treatment of, (68) 709—ab
Fits uncinate group of, and the cerebral centers for taste and smell, *879
Flatfoot, (33) 1551—ab
  contracted treatment of, during sleep, (118) 1827
  facts for assimilation and dissemination (11) 1815
  hyperemia in (75) 539
  value of Gleich's operation in, (54) 1 56
  shoe for, (117) 84
Flea how it clears itself of plague bacilli (28) 698—ab
  killing power of certain chemicals, (44) 1112
Fleas, bionomics of, (27) 698
  on rodents and men on Pacific Coast, *495
Flexion cause of, in hip disease, (107) 77
Flies as carriers of bacillus typhosus, (12) 1735
  as carriers of contagion in yaws, (95) 712—ab
  typhoid due to (6) 2088—ab
Florida, proliferating cestode larva in man in, (98) 1110—ab
Fly, house, as agent in dissemination of infectious diseases, (60) 1108—ab
Fluoroform treatment of whooping cough by, (136) 1734
Food adulterations and health (134) 260
  Congress, First International, impressions of, (27) 1554
  and air passages foreign bodies in, bronchoscope and esophagoscope for location and removal of, (132) 1734
  eaten too rapidly, overdistention and overwork of stomach, from (43) 713—ab
  in chronic nephritis, (104) 84
  infant reliability of sterilized and pasteurized milk as, (149) 1906
  infantile affections resulting from, (123) 1652
  inspection at ports of entry, (21) 871
  pure and drug inspections (69) 2091
  values practical application of in nutrition of children, (79) 1156—ab
Foods and medicines, proprietary, state regulation of, (13) 1111
  energy value of, (77) 1036
Foot and arms, multiple and recurring patches of gangrene on, (44) 173—ab
  backward dislocation of, and extension dressing with flexed knee, (121) 150
  clonus apparatus for automatic registration of, (126) 1914
  disabled in military service and diagnosis by skiagraph, (125) 9 0
  lipoma of, diffuse painful, (8) 1466
  perforating ulcer of, negative results of stretching nerve for, (140) 267
  tendon sheaths of, in relation to tendovaginitis and perimysitis crepitans (76) 2199
Forceps, (56) 1732
  axis traction, vs telephone and motor car, (34) 1555—ab
  high, for high transverse facial presentation, (128) 267
  laryngeal, (82) 625
  nasal septal, (96) 442
  removal of retained fetal membranes, (63) 1647
  reverse antrum, with sphenoid punch attachments *1233
  tonsil, (154) 171, *1696
Foreign bodies and cancer of intestine, (57) 2008—ab
  bronchoscope and esophagoscope for location and removal of, in air and food passages, (132) 1734
  extraction of, (8) 442
  in abdominal cavity, (28) 1033 (68) 1035
  in esophagus, (35) 1555, (126) 2197—ab
  in eye diagnosis and treatment of, (79) 441, (56) 1375
  localization of, by new method, (23) 1283
  in nose as cause of maxillary empyema, (91) 1552
  in trachea and stomach (11) 1549
  migration of, (103) 1259—ab
  of irregular shape in esophagus, extraction of, (49) 1380
  syringe for removal of, from ears, (63) 1193
  removal of, from trachea of child, (107) 1552
Formaldehyd, antiseptic and germicidal properties of, and action on toxins, (79) 1466
  derivatives, fate and actions in body *818
Fossa, iliac, method of partitioning off after complicated appendicectomy, (50) 1285—ab
Foster Milburn Co, vs Col Jack P Chinn, history of case of, (44) 1185—ab
Fowl muscles of, action of barium chlorid on, (45) 1817
Fowls, body weight and egg weights in, results of ovarian transplantation on, *1314
  Cypriote, spirochetosis of, (24) 354
Fracture and dislocation of neck at sixth cervical vertebra in man of sixty, recovery, (10) 1815
  and dislocation of second cervical vertebra (8) 2185
  and refracture of patella, treatment, (29) 1736—ab
  chauffeur's (43) 1379—ab
  Colles' malpositions of ulna in, (118) 78
  compound comminuted of tibia and fibula treatment of, *2057
  incomplete, laceration of tubercle of tibia or defective growth? (52) 1822
  isolated, of scaphoid bone, (81) 1114
  of arm above condyle treatment of, (73) 2193
  of arm, treatment of, (119) 78
  of atlas, isolated comminuted, (143) 268
  of base of skull with prolonged unconsciousness (146) 1037
  of clavicle, new dressing for, (104) 1110
  of clavicle, treatment of, (7) 2233
  of clavicle unusual (11) 791
  of distal phalanx from tearing off of extensor tendon, (60) 174
  of eminentia capitata (33) 1640
  of femoral shaft, splint for, (69) 2003
  of femoral shaft treated by open method, (68) 2003—ab
  of femur, (76) 1648
  of femur, improved Hodgen splint for, (37) 167—ab
  of femur, in new born, (15) 79—ab, (16) 711—ab
  of femur neck in adults operative treatment of (38) 2099—ab

- Fracture of femur, neck in young, (76) 1114—ab
  - of femur, treatment of, (113) 260, (39) 2090—ab
  - of fingers, treatment of, (80) 175
  - of humerus, treatment of, (35) 74—ab
  - of humerus, with dislocation, operative treatment of, (33, 34) 74—ab, (58) 441, (65) 624
  - of jaws, (11) 255
  - of larynx, (102) 169
  - of leg, treatment of, (131) 1111
  - of long bones, (55) 1185—ab
  - of long bones, extension treatment of, (37) 1190—ab
  - of long bones, necessity for end-to-end apposition in, (31) 1737—ab
  - of metacarpal bones, (30) 1736
  - of neck of radius, (103) 1644
  - of nose, depressed, operation for, (21) 1467
  - of os calcis, (13) 1729—ab
  - of patella, (106) 949, *1944
  - of patella, treatment of, (72) 169—ab, (62) 792—ab
  - of patella, ununited, comminuted, removal of bone for, (81) 533—ab
  - of pelvis and femur, trauma of kidney and impaction of pubic arch in bladder, (87) 948—ab
  - *of radius, (99) 77—ab*
  - of ribs, rupture of lung, and pneumohemothorax, (34) 1378
  - of skull, bursting, decompressive operations in, (30) 74
  - of skull, compound comminuted, (102) 1643
  - of skull, injuries of cranial nerves from, *271
  - of spine, treatment of, (88) 351
  - of tibial spine, (67) 441
  - supracondyloid, of humerus, reduction of, (40) 1372—ab
- Fractures, ancient, some lessons from, (11) 1038
  - and depressed deformities of nose, treated by combined bridge and intranasal splints, (98) 1552
  - and dislocations, treatment of, (106) 1650—ab
  - and their consequences, operative treatment of, (80) 1040—ab
  - compound comminuted, of all maxillary bones, *1697
  - delayed union in, (17) 1278, (60) 1375
  - extension without use of weights for, (17) 790—ab
  - mobilization and massage in, (11) 1554—ab
  - obscure, diagnosed by x-ray, (26) 439, (21) 622, (24) 790—ab, (19) 1462, (21) 1640
  - of bones of forearm, direct and internal splintage by operation in, (37) 1379—ab
  - of femoral shaft, recent, operative treatment of, (39) 1372—ab
  - of ribs, treatment of complications from injury of lungs in, (60) 1556
  - of vertebræ, (112) 2195
  - operative treatment of, (61) 713
  - severe traumatisms and, (55) 257—ab
  - strain, of knee, (44) 791
  - treatment of, (15) 172, (116) 793
  - treatment of, by direct internal splintage, (37) 1379—ab, (143) 1734, (27) 1736
  - x-ray diagnosis of, (1) 1105—ab, (54) 1465
- Frambesia tropica, (116) 260
- Frame, metal, for veil to wear while operating, (119) 1827
- France, admission of foreign students to medical schools, (71) 82
- Francois de Paris, miracles at tomb of (14) 255—ab
- Fraternal spirit, (103) 169
- Fremitus, vocal, in croupous pneumonia, (97) 1559
- French and German for medical students, (11) 1466
  - clinics in neurology and psychiatry, (51) 1817
  - surgical congress, twenty-first, transactions of, (52) 2192
  - surgical congress, verdict of, on facial nuralgia, (47) 1909—ab
- Fresh-air methods at home for consumptives, (14) 260
  - school, (140) 260
  - treatment in home as applied to pediatrics, *1505
- Freund's operation: See Chondrotomy
- Friction sounds and râles, physical and clinical study of, (134) 634
- Frontal presentation, influence of gravity on production of, (61) 1113
- Frontal sinus disease, conservative treatment of, (73) 258
- Fruits, food value of, (42) 1191—ab
- Fulguration: See also Cancer: Lightning treatment of
  - of vital organs, (69) 875
- Function, chemical regulation of, (140) 626
- Fundus, capacity of extension of, and peristaltic movements of stomach, (64) 174
  - desirability of ophthalmoscopic examination of, while still possible in senile cataract (01) 2004—ab
- Fungus coccidioides, (37) 531

G

- Galactosuria, alimentary, in jaundice, (59) 1193
- *Galalith intestinal button, (61) 356*
- Gall-bladder and bile channels, inflammation of, without gallstones (96) 448—ab
  - and bile ducts, syphilis of, (59) 1903
  - and biliary passages, pathologic anatomy of, (145) 1188
  - cholecystostomy with recovery of pure culture of typhoid bacilli from, (37) 1640
  - congenital absence of, (36) 439
  - diseases, treatment of, (93) 2004
  - drainage of, (95) 352
  - drainage of, in chronic pancreatitis, (39) 2187
  - empyema of, with stone, following typhoid, (160) 1188
  - empyematous, primary sarcoma of, (56) 1556
  - gangrene of, (37) 790
  - pedicle of, torsion of, (81) 356 (52) 1192
  - surgery of, (131) 626, (70) 792, (147) 1188
  - surgical affections of, (71) 1109—ab
- Gallop-rhythm of heart, (42) 167—ab
- Gallstone affections, benign stenosis of pylorus simulating, (68) 1114
  - affections, familial, (50) 174
  - disease, (76) 441
  - disease, importance of early surgical treatment, (37) 1551
  - disease, ischochymia simulating, (60) 441—ab
  - disease, medical treatment of, (21) 866
  - disease, pancreatitis and, *377
  - disease, symptoms of, (146) 1188
  - disease, treatment of, (110) 442, (69) 709
  - empyema of gall bladder with, following typhoid, (160) 1188
  - factors, (28) 623
  - ileus, (94) 1471—ab
  - ileus, operation, recovery, (5) 1282
  - operations, concrements forming on threads after, (98) 358
  - surgery, (18) 354
- Gallstones, (144) 171
  - and pancreatic diabetes, (23) 2234—ab
  - as etiologic factor in diabetes, (29) 623
  - differential diagnosis of, (19) 1372
  - inflammation of gall bladder and bile channels without, (96) 488—ab
  - medical treatment of, (84) 1819
  - prevention of, and cholecystitis, (9) 2088
  - regurgitation a symptom of, (22) 1640
  - surgical treatment of, (87) 1740—ab
- Galvanotropism in bacteria, (74) 350
- Games, educative aspect of, (38) 1821
- Ganglia, pathogenesis of, (45) 707—ab
- Ganglion, Gasserian severe trigeminal neuralgia successfully treated by excision of, (52) 1468
  - Gasserian, surgery of, (128) 352—ab
  - petrosal, herpes of membrani tympani due to zosteroid affection of, (35) 1108
- Ganglioneuroma, (56) 713—ab
- Gangrene and empyema of lung complicating typhoid in child, (61) 257
  - angiosclerotic, treatment by arteriovenous intubation, (71) 631—ab
  - diabetic, amputation in, (13) 789—ab
  - extensive enterectomy for, (3) 1189
  - in strangulated hernia, treatment of, (7) 171—ab
  - limited annular, of small intestine invagination of, vs. resection, *472
- Gangrene of extremities after pneumonia, (20) 952—ab
  - of extremities complicating typhoid, (165) 87—ab
  - of extremities in infant, (48) 867—ab
  - of fingers, (78) 710
  - of gall bladder, (37) 790
  - of limbs, after ligation of large trunk vessels, (50) 797—ab
  - of puerperal uterus, (45) 1279
  - of rectum, apparently spontaneous, (57) 1380
  - of skin in rheumatoid scarlatina, (28) 1554
  - of skin, postscarlatinal, (62) 714
  - presenile spontaneous, vascular lesions leading to, (40) 1902—ab
  - self-inflicted, (44) 173—ab, (40) 263
  - symmetrical, of legs, in infectious diseases, (116) 1914
- Gargling with mouth closed, (71) 264
- Gas distention, postoperative, of abdomen, prevention of, (79) 1904—ab
  - ether anesthesia without complications, (41) 1372
  - in blood, ferricyanid method for determination of, (99) 83
- Gases, dosage of, in mines, (49) 2007
  - interchange of, and consumption of energy after eating, (110) 1826
  - stomach and intestinal, (13) 1462—ab
- Gastrectasia and gastric ulcer, rôle of gastroenterostomy in, (30) 1555
- Gastric-cancer, (161) 171, (15) 1901—ab
  - and cancer of glands at extremities of clavicles, (4) 951
  - and gastric ulcer, diagnosis between at operation, *558
  - at Heidelberg clinic, 1808-1905, (77) 1287—ab
  - atypical symptoms in, *1695
  - early diagnosis of, and nature of carcinoma, in general, (8) 2000—ab, (71) 2189—ab
  - grafted on chronic gastric ulcer, (96) 1904
  - hemolytic substances in stomach content and their importance in diagnosis of, (57) 2097—ab
  - primary, and microscopic metastasis in ovaries, (96) 1649
  - surgery of, (74) 2097
  - typical localization of metastasis of, (86) 1650—ab
- Gastric crises and lightning pains, arterial pressure in tabes dorsalis and its modification under influence of, (53) 1738—ab
  - crisis simulating stenosis of pylorus, (67) 264
  - diseases, general therapeutics of, (4) 789
  - diseases, non-malignant, preoperative treatment of, (28) 1736
  - disturbances, functional, and lactic acid bacillus in digestive tract, (62) 1910—ab
  - hyperacidity, origin of, (76) 1381—ab
  - juice, and urine, clinical examination of, by general practitioner, (5) 1734
  - lavage, value of, (63) 1732—ab
  - neurasthenia, due to eyestrain, (24) 623
  - secretion and salt, (41) 537—ab
  - secretion, physiology and pathology of, (28) 2089
  - surgery, scope and limitations of, (86) 1186
  - symptoms, reflex, factor in surgical diseases of abdomen, (133) 1553
- Gastric-ulcer, (78) 948, (41) 1379
  - acute perforating, (106) 1819
  - and cancer, diagnosis between, at operation, *558
  - and duodenal, (102) 260—ab, (94) 1036
  - and duodenal, acute perforating, (42) 2090—ab
  - and duodenal, chronic, (171) 171
  - and duodenal, chronic, antilytic serum in, (14) 1644
  - and duodenal, diagnosis of, *651
  - and duodenal, secondary to wounds of bladder, (105) 260—ab
  - and gastrectasia, gastroenterostomy in, (30) 1555
  - antipepsin for treating, and for protection of stomach against autodigestion (68) 1558—ab
  - atropin in, (116) 1560
  - chronic, antilytic serum in, (14) 1644
  - chronic, carcinoma of stomach grafted on, (96) 1904
  - chronic, surgery of, (39) 1108, (48, 49) 1468
  - diagnosis of, (13) 1549—ab
- Gastric-ulcer, diagnosis and medical treatment of, (85) 1819—ab
  - dietetic and medicinal treatment of, (127) 1828—ab
  - dietetic treatment of, (91) 265—ab
  - functional stomach tests in diagnosis of, (70) 1114—ab
  - inoperable, (173) 171
  - how frequently does it become carcinomata? (104) 260—ab, (136) 353—ab
  - perforated, operation, for, (4) 1377, (48) 1468
  - perforating, *495, (151) 1906
  - pre-cancerous influence of, (21) 1816
  - surgical treatment of, (159) 78, (118) 869
  - treatment of, (111) 352—ab, (89) 625
  - with other intraperitoneal lesions, (57) 624
- Gastritis, atrophic, significance of wash water examinations for gastric cells in, diagnosis of, (15) 348
  - suppurative phlegmonous, (41) 167—ab
- Gastroduodenoscopy and diaphanoscopy, (48) 713—ab
- Gastroenterostomy, analysis of stomach contents after, (83) 625—ab
  - cauterizing, (60) 713—ab
  - changes in chemistry of stomach after, (60) 1910—ab
  - for non-malignant disease, (12) 535
  - in gastric ulcer and gastrectasia, (30) 1555
  - medical aspect of, (27) 1378—ab
  - motor functions of stomach after, as demonstrated by x-rays, (4) 710—ab
  - physiologic effects on patient with, (56) 1279
- Gastrointestinal affections, occult blood in stools and stomach contents in, (97) 83—ab
  - diagnosis and treatment, permeation method of, (136) 634—ab
  - diseases, and pancreas, (127) 170—ab
  - diseases of infancy and childhood, (73) 948
  - dyspepsia, chronic, and chronic dyspeptic diarrhea, (86) 1559—ab
  - experimental absorption of tubercle bacilli from, (70) 1738
  - ferments, (49) 2192
  - hemorrhage, postoperative, (93) 2195—ab
  - indigestion, nervous manifestations of, (126) 1111
  - neuroses, (129) 1111
  - tract and upper air passages, infection by way of, (116) 1651—ab
  - tract, cancer of, (115) 78
  - tract, lactic acid bacillus in and functional gastric disturbances, (62) 1910—ab
  - tract, perforating gunshot wounds of, with recovery, (92) 1471
  - tract, traumatic subcutaneous rupture of, (92) 2194
  - tract, tuberculosis of, (59) 867—ab
  - upper, abdominal, laparotomy in diagnosis of diseases of, (164) 171
- Gastrojejunostomy, review of, (67) 1281, (50) 2188
- Gastromyxorrhea, (15) 944
- Gastroptosis, (24) 707—ab
  - corset for, (11) 438
  - surgical treatment of, (73) 2189—ab
  - ventriculi and neurasthenia, (17) 1106
- Gastroschisis, *1972
- Gastroscope, (5) 171, (53) 264
  - bronchoscope and esophagoscope, (16) 790—ab
- Gastroscopy, (24) 348, (24) 439, (53) 708
  - esophagoscopy and tracheobronchoscopy, (19) 622
- Gastrostomy, (19) 1554
- Gastrosuccorrhea, digestive, etiology of, (91) 876
- Gastrotribe, (121) 1473
- Gauze pack, inconsistencies of, (40) 1033—ab
- Gelatin, dry, reaction of, to moisture and its importance for preservation of meat juice, (123) 1473
  - for hemorrhagic diathesis of new-born, (154) 86
  - iodized, tuberculous peritonitis and treatment with, (131) 1743—ab
- Gelseminin in morphin habit, (48) 349
- General practice, plea for habitual performance of autopsies in, (13) 172
  - practitioner and specialist, and laboratory worker, (51) 257
  - practitioner, uses of x-ray in hands of, (83) 1186—ab

Geniculate ganglion, herpetic inflammations of, (36) 866
Genitals, external, and right leg, congenital varices of, (3) 1549
  external, melanoma of, (49) 630
  female, and internal diseases, (23) 1550—ab
  female, cancer of, treatment of, (39) 354—ab
  female, disease of, in relation to health of women and increase in population, (73) 1290—ab
  female, external, development of, especially hymen, (63) 1903—ab
  female, prolapse of, and levator ani, (59) 81
  female, tuberculosis of, (57) 867—ab
  hypoplasia and infantilism of, (54) 538
  molluscum contagiosum of, in husband and wife and of face and neck of their infant boy, (46) 1279
  staphylococcus infection of, (60) 2008—ab
Genitourinary diagnosis, preparation for, (10) 1106
  organs, tuberculin in tuberculosis of, (37) 80
  tract, gonococcus vaccine in gonorrhea of, *1419
Genu valgum, treatment of, (76) 631
German and French for medical students, (11) 1466
  clinics, methods of diagnosis in, (62) 168
  field sanitary regulations, (119) 950
Germany, contract practice in, (73) 1375
Germ friends, plain labels on, (19) 439
Gestation, corpus luteum of, (147) 412
Gingivitis, interstitial, *386
Girls and women in Egypt, bilharziasis among, (17) 1903
Gland of Bartholin, carcinoma of, (103) 1473—ab
  palpation in diagnosis of human trypanosomiasis, review of position of, (34) 1038
  submaxillary, in cervical sympathetic of cat, vasodilator fibers to, (22) 1033
Glanders, value of agglutination reaction and of bacteriologic methods in diagnosis of, (52) 2003—ab
Glands: See also Special Structures Involved.
  and muscles, resuscitation of, after temporary anemia, (64) 350—ab
  bronchial, and apices, tuberculosis of, x-ray diagnosis, (46) 1192—ab
  cervical tuberculous, surgery of, (127) 1644
  enlarged, cervical tumors simulating, with laryngeal paralysis, (22) 1467
  in neck, injury of nerves during extirpation of, (59) 713—ab
  lymph, in syphilis, (166) 87
  lymphatic, x-ray irradiations of, spontaneous recoveries from cancer and specific immunity induced by, (9) 1735
  Mammary: See Breast
  mesenteric, primary tuberculosis of, (73) 1114—ab
  near clavicle extremities, cancer of with cancer of stomach, (4) 951
  reciprocal action of, with internal secretion, (140) 1475—ab
  salivary, ranula and other diseases of, *993
  secretory of stomach, functioning of, under abnormal conditions of innervation and duct arrangement, (97) 1913
  tracheal, x-ray examination of, (119) 2012
  tuberculosis of, seashore and brine baths in, (54) 445
  tuberculous, in mesentery, surgical treatment of, (34) 1468—ab
Glasses fitting of, relative importance of, in ophthalmic practice, (101) 1187
Glaucoma, acute, (132) 1111, (88) 1733—ab
  acute, seasonal prevalence of, in India, (33) 1283
  anatomic factors in pathogenesis of, (34) 1283
  as consequence of leucoma adherens, (27) 1283
  chronic, miotics versus iridectomy in treatment of, *1259
  chronic, treatment of, (120) 1905
  etiology of, (105) 352, (69) 1523
  following secondary cataract operation, (121) 1905
Glaucoma, modern treatment of, (92) 1826—ab
  restoration of sight after nearly a months' blindness from, (4) 2185
Glimpses of past, (93) 626
Glioma, multiple ependymal, (30) 1816
  of brain, (8) 255
  of brain involving pia mater, (7) 2185
  of retina, enucleation and recovery, (140) 1037
  venous accommodation after compression of superior longitudinal sinus by, (4) 2005
Gliosis and vascular lesions of right centrum, causing progressive hemiplegia of left side, (70) 1035—ab
Globe angioma of orbit with invasion of, along ciliary nerves, (117) 1905
Globulin from egg yolk of spiny dog fish, (19) 1731
Glossitis, staphylococcus, (110) 84
Gloves and masks advisable in surgery, (31) 1107—ab
  rubber, sterilization of (119) 1117
Glycerin as adjuvant to silver nitrate, (32) 1283
  iodoform and hyperemia in surgical tuberculosis, (15) 2093
Glycogen, cartilage, morphology of, and structure of cartilage cells, (92) 2098
  from liver, deprived of portal and systemic blood supplies, influence of stimulation of great splanchnic nerve on disappearance of, (55) 1108
  in sputum, diagnostic significance, (128) 1561—ab
  liver, and structure of liver cell, (127) 634, (129) 1043
  liver, during starvation, (116) 2100
Glycogenolytic fibers in great splanchnic nerve, experiments on nature of, (54) 1108
Glycolysis, hyperglycemia, glycosuria and diabetes, (31) 2094
Glycosuria, adrenalin, and its influencing by pancreatic juice and extract, (54) 1192
  and diabetes, diagnosis of (114) 1282
  and pancreatic juice, (19) 1111
  duodenal, negative experimental research on, (86) 1912
  experimental, influence of external temperature on, (128) 634
  experimental, induced by cauterization of inner surface of intestine, (79) 356
  hyperglycemia, glycolysis and diabetes, (31) 2094
  hypophysis, and its relation to diabetes mellitus in acromegaly, (116) 1827—ab
  phloridzin, glutamic acid ingested in, productions of sugar from, (72) 350
  phloridzin, influence of cold and mechanical exercise on sugar excretion in, (71) 350—ab
  veronal poisoning and, (64) 1380
Glycothionic acid, (160) 870
Goiter: See also Exophthalmic Goiter.
Goiter, (64) 264, (177) 951
  congenital, (46) 263—ab
  in young, (48) 791
  medical treatment of, (33) 531—ab
  surgical treatment of, (34) 531—ab
  postoperative injuries of vocal cords after removal of, results, (93) 1649
Gonococci, dead, injections of in gonorrheal arthritis, (29) 73—ab, (28) 256—ab
Gonococcus as factor in infection following abortion or full term delivery, (59) 2091
  in obstetrics and gynecology, (100) 1904
  vaccine in gonorrheal genitourinary tract, *1419
Gonorrhea, (1) 705—ab
  acute epididymitis due to, operative treatment, (15) 2001—ab
  acute, penis clamp in treatment of, (26) 623
  acute, treatment of, (124) 1553
  and pregnancy, (133) 442
  and syphilis, drug action in, (66) 1552
  antigonococcus serum in, *105
  blood changes in, (125) 1290
  antigonococcus serum, in arthritis due to, *647
  determination of, in inflamed prostate or seminal vesicle, (42) 1108—ab
  early, in male, treatment of, (23) 354
Gonorrhea, exostoses of os calcis due to, (13) 1371
  in girl babies, (86) 1733
  in women, treatment of, (95) 265, (88) 533—ab, (82, 119) 1819
  iritis, due to, (11) 627—ab, (116) 1466
  joint affections in, superheated air in treatment of, (86) 447—ab
  presumably cured, and marriage, *1925
  septicemia due to, with cardiac involvement, (17) 1549
  sociologic aspect of, (130) 1553—ab
  treatment of, and of arthritis of uncertain origin, (31) 1907
  treatment of, by suction and irrigation, *1153
  vaccine therapy in, (158) 78, (90) 1281, *1419
  vaccine therapy of, in female children, (78) 169—ab, *1298, *1301
  when is it cured? (93) 1281
Gonorrheal arthritis, (106) 793
  arthritis, injections of dead gonococci in, (29) 73—ab, (28) 256—ab
  coxitis, and protrusion of floor of acetabulum, (89) 2098
  endometritis, chronic, successful treatment of, (35) 167
  epididymitis, (95) 77—ab
  vulvovaginitis, inoculation treatment of, in children, (78) 169—ab, *1301
Gout, (33) 414
  and other affections, elimination of edogenic and exogenic uric-acid in, (113) 1475
  dietetic and physical treatment of, (66) 954—ab
  disease of metabolism, treatment (76) 1280
  of testicle and prostate, (94) 265
  pathogenesis of, (137) 267—ab
  purin metabolism in, (75) 868—ab
  rheumatism and diabetes, diagnostic value of symptoms of upper air tract in, (61) 1280
  treatment of, (38) 935—ab, (89) 1288
Gouty diathesis, treatment of, (127) 85—ab
Grain, hygienic care of, in prophylaxis of pellagara, (119) 878
Granula and motes (48) 1192
  and splinters, (49) 2095
Granulations, healing of, under Scharlach R salve (106) 1561—ab
Granule, Nissl's, with spinal anesthesia, changes in, (82) 1040
Granuloma, sarcoma of lymph glands simulating, (83) 539—ab
Graser's operation for large umbilical and abdominal hernias (66) 264—ab
Gravity, influence of, on production of frontal presentation, (61) 1113
Gray, H., anatomist, (32) 1551—ab
Great black plague, (71) 169
Greece, malaria in, (15) 706
  malaria in, during 1907, and work of antimalaria league, (141) 1117
Greek, use of, in medicine, (38) 797, (55) 1286
Grinders' phthisis, pathology of, (18) 1038
Grinding trades, dust removal in, (19) 1038
Grippe: See Influenza.
Grocco's-sign, (49) 1822—ab
  in pleurisy, (98) 1472—ab
  in pregnancy, (34) 1902—ab
Groin, lymphatics of, spread of malignant disease, in, (21) 80
Growth and development of child, physiology of, (81) 1912
  arrest of, at lower end of radius after separation of its epiphysis, (43) 791
  intrathoracic, (88) 1643
  standards for, in length and weight of new-born, (39) 629—ab
Growths, New, Malignant, etc.: See Tumors and Neoplasms.
  of head and face, (95) 1472
  psammoma-like, in wall of meningocele, (102) 1913
Guest, or personal experiences of patient in hospital for insane, (56) 257, (96) 626, (142) 870, (161) 1037, (87) 1643, (97) 2004
Guaiac test for blood, (69) 714
Guam, history of epidemics in, (45) 1108
Guha, pathologic anatomy of, (44) 1108
Guinea-pig blood, Kurloff's bodies in mononuclears of, and their protozoic nature, (62) 1523
  localization of cell and tissue anaphylaxis in, (99) 869
  serum anaphylaxis and intoxication in, mechanism of, (2) 869
Guinea-pigs and rabbits, bactericidal action of extract of leucocytes of, (61) 1039
  infected with human, bovine, or avian tubercle bacilli, ocular reaction to tuberculin in, (16) 1901—ab
  recurrent anaphylaxis and repeated intoxication in, by horse serum, (97) 869
Gum arabic, in spinal anesthesia, (92) 540—ab
Gummata, syphilitic, aneurism of heart due to, (3) 1644
Gunshot Wounds: See Wounds
Gurgling, expiratory, (83) 356—ab
Gynecologic affections and appendicitis, differential diagnosis between, (82) 1739
  inflammatory, leucocyte count for diagnosis in, (111) 877
Gynecology, (122) 260, (47) 947, (32) 952
  and appendicitis in women, (62) 538—ab
  and obstetrics, gonococcus in, (100) 1904
  and obstetrics, modern, tasks and results of, (113) 634
  and obstetrics, under-water examination and treatment in, (86) 357—ab
  conservative treatment in, (122) 450—ab
  crime of, (41) 75—ab
  development of technic of modern operations in, (24) 1033—ab
  hospital, (40) 623—ab
  in Vienna, (110, 111) 1913—ab
  offices, (46) 531—ab
  rest as important factor in the non-operative treatment of, (118) 1282
  scopolamin-morphin anesthesia in, (127) 267—ab
  spinal anesthesia in, (99) 716—ab
  teaching of, (43) 531—ab
  teaching of, charts as aid in, (40) 707—ab

H

Habits, injurious, of young children, (24) 73
Hæmaphysalis punctata, Canestrini and Fanzago, structure and biology of, (49) 1039
Hair dye, dermatitis following use of walnut juice, (71) 1035—ab
  grayness of, and mental nerve area, (14) 443
  nutritive and neurotic disturbances of, *279
  superfluous, removed by Roentgen-ray, (112) 1111
v. Haller, A., bicentennial of, (95) 1825
Hallucinations, artificial auditory, in delirium tremens, (93) 1559—ab
Halls, churches and public assembly rooms, sanitary construction and furnishing of, (151) 1188
Hammer, new percussion, *1010
  percussion, and plessimeter for threshold percussion of heart, (89) 876
  percussion, weighted, (80) 1381
  toe, (45) 629
Hams, miscured, nature and causes of taint in, (5) 353—ab
Hand, dorsal veins in, as means of individual indentification, (93) 956
  treatment of cicatricial contracture of, (130) 1117
  conservative surgery of, (15) 1462—ab
Harelip and cleft palate, (149) 1734
  and cleft-palate, operative treatment, (140) 1188, (135) 1906
  new operation for, (142) 78
Harrington, J., (71) 1732—ab
Hay-fever, (70) 1732
  alcohol injections in, (54) 791
  and asthma and Colorado, (116) 1644
  and asthma, relation of antral sinusitis to, (109) 352—ab
  hyperesthetic, pathogenesis and treatment, (78) 1280
  hyperesthetic, treatment of, (99) 1552
  hypnosis in, (120) 1473
  intractable, and paroxysmal coryza, treatment of by resection of nasal nerve, (4) 171—ab
  pollinosis, (157) 950
  treatment of, (96) 1036
Head and face, growth of, (95) 1472
  chondroendothelioma of, (125) 1914
  fetal, delivery of decapitated, (23) 2001

Head holder for autopsy work, (146) 268
  injuries, (16) 795, (119) 869—ab, (24) 872
  lancinating pains in, in tabes, (106) 1913—ab
Headache and other functional diseases, neuropathic diathesis as condition of, (98) 793
  caused by eyestrain, (64) 1035
  cure of, (20) 790
  due to nasal sinus infections, (67) 1035
  due to non-suppurative frontal sinuitis, (103) 1552
  due to of renal disease, (65) 1035
  due to toxemic conditions, (66) 1035
  in relation to refractive and muscular condition of eye, (159) 1188
  of intracranial disease, (63) 1035—ab
  of nasal origin, (86) 1281
  pathology and treatment of, (21) 172
  severe treatment of, (8) 871—ab
  treatment of eyes for, (45) 2007
Headaches, periodical, (128) 793
Healing by primary union, factors necessary in addition to asepsis to secure, (11) 1729
  in amyloid kidney, and phenomena of degeneration, (93) 2098
Health and disease, urobilin in stools in, (39) 1191
  boards, function of, in control of tuberculosis, (83) 1466
  bureau of, should we have one? (31) 1462—ab
  Bureau work, (123) 1111
  department methods for supervision of milk supply, (73) 710
  food adulterations and, (134) 260
  general configuration and meteorology of midland counties of England, (35) 444
  in tropics, (26) 712—ab
  inspection work, need and value of (7) 1638
  mental and physical, during first year of life, beginning of training for, (109) 1042—ab
  nation's outlook for, (86) 533
  of man and plants, effects of bituminous coal smoke on, (8) 1815—ab
  officer, experiences of, (39) 531
  officer, special, report of, (128) 626
  public, and vital statistics, (151) 950
  public, call to, (29) 945—ab
  public, national department of, (100) 1733, *1856, (15) 2089—ab
  resort, Austrian Tyrol as, (20) 628
  resorts and climates for children, (25) 444
Healthy, it pays to be, (78) 351
Hearing, do we hear ourselves as others hear us? (133) 78—ab
  effect of abnormal conditions in nose on, (114) 1466
  hardness of, chronic progressive, pathology and prognosis of, (85) 2092
  impaired, and adenoids, responsibility of physician for future of child with, (42) 1374—ab
  tests, physiologic, (100) 1552
Heart action, alternating, true nature of, (105) 633—ab
  action, interference with, by stooping, (89) 265—ab
  action, nervous disturbances in, (71) 798
  acute dilatation of (84) 799, (75) 1558
  acute dilatation of, from overexertion, (109) 449
  affections and Colorado, (118) 1644
  alternating, and its relation to continuous bigeminal heart, (100) 1826
  and central nervous organs, attempts to resuscitate animals by passing arterial blood through, (113) 2196—ab
  and large vessels, percussion of changes in diameter of, in various febrile affections, (130) 1562—ab
  and menopause, (100) 1741—ab
  and vascular affections resulting from metabolic disturbances, balneotherapy of, (85) 176
  and tobacco, (71) 76—ab
  aneurism of, *371
  aneurism of, due to syphilitic gummata, (3) 1644
  aortic valvular insufficiency, interrupted contraction of left ventricle in, (93) 83
  arrhythmia of, (51) 708—ab
  arrhythmia of, from view-point of myogenic theory, (13) 1467—ab
Heart [illegible] 1902—ab
  [illegible] and treat-
  base of, to-and-fro rhythm of anemic souffle at, (28) 796
  beat, relation of salts to, (68) 169
  beat, safeguards of, (50) 708—ab
  bisystole of, (93) 83
  block in ventricular walls, (24) 1816—ab
  cactus grandiflorus as remedy for diseases of, (60) 2188
  changes in renal diseases, (130) 793
  changes in size of, in infectious diseases, (88) 1740
  clamping of large blood vessels near, in operation for pulmonary embolism, (76) 2097
  clinical study of, (28) 439
  compensation, failing, Karrell's milk diet and underfeeding in, (99) 876—ab
  contractions, physiology of, (71) 539—ab
  defects, coincidence of congenital and acquired, (67) 1911
  diaphragm and stomach, changes in outlines of, during respiration as shown by ray, (123) 442
  dilatation of, (96) 2189—ab
  disease and organic nerve disease, (39) 1468
  disease and pregnancy, (43) 1279—ab
  disease and tuberculosis in relation to pregnancy, (79) 2091
  disease and venesection, *747
  disease, baths and exercises in, (75) 1036—ab
  disease, birth of undeveloped twins complicated by, *316
  disease, chronic, (145) 442
  disease, a chronic treated by carbonated mineral baths and auxiliary exercises, (77) 1110—ab
  disease, congenital, (40) 1821
  disease, congenital, statistics of, (103) 869
  disease, courses of mineral waters in, (94) 447
  disease, electrocardiograms in diagnosis of, (118) 2012—ab
  disease, false, and functional cardiopathies, (56) 1738—ab
  disease, high-frequency electricity in, (2) 864
  disease in children, prognosis of, (38) 2006
  disease, liver symptoms in, (7) 166
  disease nervous, and balneology, (104) 632
  disease, non-valvular, (113) 352—ab
  disease, principles of treatment in, (76) 1036—ab
  disease, problem of, *1416
  disease, remedial measures other than drugs in, (85) 1376
  disease, spa treatment of, (32) 444
  disease, therapeutics of, (104) 626
  disease, thoracostomy in, (2) 442—ab
  disease, valvular, (124) 442
  diseases, symptomatology of, (142) 1043—ab
  diseases, functional, diagnosis and treatment, (72) 1911—ab
  dulness, diminished, in diagnosis of cancer, value of, (9) 871—ab
  ectopic, in living child, (117) 1742
  fat, and allied conditions, peripheral action of active exercise on circulatory disturbances with, (82) 1559—ab
  fibroelastomyxoma of, and casuistic study of tumor of heart, especially myxomas, (103) 1913—ab
  functional pathology of primitive tissues of, (24) 795
  functioning, office tests of, (111) 1042—ab
  gallop-rhythm of, (42) 167—ab
  hypertrophied, apparent, (126) 85—ab
  hypertrophy of and contracted kidney, (79) 1559—ab
  hypertrophy of, and arterial hypertension and hyperplasia of hypophysis and suprarenals, (29) 796—ab
  impulses, disturbances in conduction of, (111) 1560
  in school children, orthodiagraphic study of, (98) 1116
  influence of chronic digitalis treatment on, (99) 1741—ab
  influence of occupation on size of, (63) 174—ab
  influence of salts and non-electrolytes on, (60) 350—ab
  invertebrate, comparative physiology of, (51) 1108
  involvement with gonorrheal septicemia, (17) 1549
Heart, irregular, *655
  irregularities of, resulting from disturbed conductivity, (29) 439—ab
  left, hypertrophy of, characteristics of venous pulse in, with kidney heart and aortic insufficiency, (51) 174—ab
  lesions, accurate diagnosis in, (59) 1465
  lesions in children, effect of altitude on, (63) 948
  lesions in natives of Sierra Leone, (41) 1821—ab
  lungs and blood vessels, diseases of (97) 1281
  management of endocarditis during compensation, (9) 348—ab
  method of outlining, with x-rays, (73) 1380—ab
  mitral stenosis and dwarf growth, (52) 873—ab
  mitral stenosis and relative insufficiency of pulmonary valves, (115) 2196—ab
  mitral stenosis differentiation of true and false, (121) 2012
  murmur in mitral incompetency, mechanism of propagation of, to apex, (41) 355
  murmurs, transient, (30) 1907—ab
  muscles, prophylaxis of fatty degeneration of, (81) 1904
  muscles, refractory period and period of varying irritability in, (70) 350—ab
  orthodiagraphic study of, in pathologic conditions, (78) 1194
  pregnancy and childbirth with congenital mitral stenosis, (30) 712—ab
  primary tumors in, (143) 1744—ab
  pseudoaneurismal dilatation of sinus of Valsalva with malformations of, (51) 1113
  reduction in size of, and bronchial asthma, (119) 1290
  remedies, intravenous and subcutaneous administration of, (104) 1650
  resuscitation of, by subdiaphragmatic massage, (110) 1187—ab
  rupture of, (71) 1280—ab
  size of, in chlorosis, (54) 1286
  stenosis of, (62) 798
  systole of auricle, (141) 1743
  tonics, indications and contraindications for, (69) 1552—ab
  tonics, modern, (98) 1740—ab
  threshold percussion of, percussion hammer and plessimeter for, (89) 876
  training of, and functional tests, apparatus for, (74) 356
  valves in new-born infants, origin of hematoma on, (118) 359
  various localizations of murmur from mitral insufficiency, (126) 717
  vascular supply of valves of, (132) 1043
  volume curve of ventricles in experimental mitral stenosis, its relation to physical signs, (80) 2004
  weight and body weight in various animals, ratio between (156) 870
  with three auricles, (133) 1043
  work of, in relation of blood pressure, (116) 177
  work of, in relation to blood pressure and obstetrics, (26) 945—ab
  wounds, (1) 1183—ab
Heat, artificial and sun's rays, effects of, (49) 623—ab
  intense, muscular symptoms due to, *1969
  paralysis, nature of, in nervous tissues, (37) 1278
Heberden's nodes, pathogenesis of, (123) 359
Hebosteotomy, (141) 1906
  compared with other procedures in management of labor with contracted pelvis, (25) 2001—ab
Heel, epithelioma of, (44) 263
Heidelberg surgical clinic, 1907 report of, (65) 1910—ab
Hematemesis, varieties and treatment, (22) 354
Hematin and iron, proportions of, in blood, (67) 2096
Hematocolpos and hematometra, (130) 1906
Hematogenic infection in appendicitis and cholecystitis, (88) 2194
Hematology, differential counts of cells in lymph of dog and their bearing on, (158) 870
Hematolymphangioma, (76) 1040
Hematoma, and intramuscular myeloma, complicating myeloid leukemia, (53) 174
  cystic, postoperative menstrual, (60) 81—ab
Hematoma of heart valve, (132) 1043
  submucous, stenosis of bowel from in hemophiliac, (50) 1909
  traumatic subdural, trephined three months after injury, (28) 1378
Hematomas on heart valves in newborn infants, origin of, (118) 359
Hematometra and hematocolpos, (130) 1906
  unilateral, genesis of hematosalpinx with, (115) 877
Hematosalpinx, genesis of, with unilateral hematometra, (115) 877
Hematuria, (121) 626, (21) 1554, (69) 1732
  complicating appendicitis, (36) 1372—ab
  malarial, (85) 259
  symptomless, (42) 1033—ab
Hematuria, vesical, therapeutic value of medical treatment in, (109) 1733
Hemeralopes, family of, (48) 1464
Hemianopsia, bitemporal, after subsidence of epilepsy, (71) 1824—ab
  homonymous, with unusual sensory symptoms, (31) 1038
  right homonymous, in macular regions, (178) 171
Hemiatrophy, trophic, complete, (90) 2004—ab
Hemichorea, solitary tubercle found in optic thalamus in, (152) 1475
Hemimelia with fusion of fingers, (45) 355
Hemiplegia, apoplectiform, convulsions and rigidity in, and hemorrhage into ventricles, *216
  differentiatial diagnosis of, from other paralysis, (31) 2186
  embolic, in tuberculous pericardium, three days after paracentesis, (11) 1183
  progressive, left-sided due to gliosis and vascular lesions of right centrum, (70) 1035—ab
  respiration in, (21) 795—ab
  right, degrees of ataxia in, (79) 447
  superior alternate, (49) 1464—ab
  uterine fibromas in, pregnancy complicated by, (134) 442
  right, relative eupraxia with, (94) 1115
  with unilateral optic atrophy, (10) 79
Hemochromatosis with cirrhosis of liver, (115) 1037
Hemoglobin, determination and functional value of, (74) 631—ab
  carbon monoxid, examination for, in blood of miner, killed in explosion in bituminous coal mine, (64) 1109
  estimations, point in use of Tallquist scale for, *1149
Hemoglobinuria and hemolysis, (105) 1913
  paroxysmal, (12) 348
Hemoglobinuric bilious fever and its treatment with aphloia theœformis, (52) 1380
  fever, (122) 442
Hemolysin in human pancreatic juice, (64) 630
Hemolysins and leucocidins in anaërobic cultures, (50) 445
  artificial, and blood production, (112) 1383—ab
  bacteriolysins and opsonins, (97) 716
Hemolysis and hemoglobinuria, (105) 1913
  in cancer and tuberculosis, *2036
  lipoids in, (47) 713
Hemolytic reactions in cancer, (46) 1903—ab
Hemomanometer and finger in clinical estimation of blood pressure, (10) 1644.
Hemophilia, (22) 712, (85) 1559
  and suprarenal hemorrhage, (6) 78
  pathologic anatomy of, (51) 1733—ab
Hemophiliac, acute intestinal obstruction in, (4) 1111
  affections of joints in, (53) 1380—ab
  operations on, (113) 541—ab
  stenosis of bowel from submucous hematoma in, (50) 1909
Hemoptysis, amyl and sodium nitrites in, (89) 869—ab
  fatal, in children, (45) 867
  infrequency of, in tuberculous children, 915—ab
  treatment of, (28) 531
  treatment of, in pulmonary tuberculosis, (33) 629
  tuberculous, (17) 628
  tuberculous, action of hemostatics in, (39) 1379

Hemorenal index, (20) 1258—ab
Hemorrhage and shock as postoperative complications, (101) 1901
  and pyuria cystic disease of kidney with, (10) 20[illegible]
  antepartum, accidental (137) 870
  antepartum and postpartum (32) 872, (84) 2189
  cerebral and increased blood pressure (47) 2090—ab
  cerebral duration of life after, *2101
  cerebral operation for, (76) 76
  cerebral, toxemia in infant simulating *1232
  complicating typhoid (127) 1734
  following nephrolithotomy for renal calculi subsequent nephrectomy for, (8) 951
  following quinsy, (151) 253
  following quinsy necessitating ligature of common carotid, (45) 81
  following section of uterine and ovarian vessels in dogs and its possible bearing on ruptured pregnancies, (31) 1816—ab
  following tonsillotomy with cold wire snare, (93) 441
  fresh animal sera in (2) 437—ab
  from adrenals in infants *1964
  from stomach and duodenum (24) 167
  gastrointestinal postoperative, (93) 2195—ab
  hepatic from trauma, arrest of, (94) 1731—ab
  in chronic metritis, (77) 82—ab
  in fatty capsule of kidney, (73) 2097—ab
  in pregnancy, (124) 1282
  in pregnancy concealed, contrasted with extrauterine pregnancy, (30) 1107
  in puerperium, causes, symptoms and treatment, (57) 538
  in suprarenals (124) 634
  inflammation and neoplasms, topographical representations of, by cross sections of female pelvis, (126) 1561
  internal, influence of, on chemical changes in organism especially protein catabolism, (20) 1073—ab
  intestinal, in syphilis, complete exclusion of large intestine for, (85) 1471
  into pons renal changes in, with high blood pressure, (51) 1468
  into ventricles *216
  intra-abdominal due to extrauterine pregnancy, time to operate for, (32 33 34 35 37) 623—ab (46) 707—ab (31) 2007—ab
  intra-abdominal, due to tubal pregnancy, deferred operation for, (47) 707—ab
  intrauterine, during pregnancy and from premature separation of normally implanted placenta (50) 1551
  method of preventing during adenectomy, (92) 441
  nasal, common source of, in persons previously healthy, (74) 2004—ab
  of kidney, essential (81) 441—ab
  postclimacteric, (104) 1904
  postpartum, (179) 951
  postpartum arrest of physiology and pathologic physiology of, (82) 447—ab
  postpartum, causes and treatment, (102) 1904
  postpartum, from atony of uterus L Goth's technic for treatment of, (135) 1117
  preretinal, (67) 1818
  Pulmonary See Hemoptysis
  retinal, and high arterial pressure, (104) 1733—ab
  severe primary, following removal of faucial tonsil (94) 441
  serious during childbirth (158) 86
  suprarenal, in infant, relation of, to hemophilia, (6) 78
  threatening internal, from ovarian perithelioma, (130) 359
  treatment of, (28) 531
  treatment of, after operations on nose, nasopharynx and tonsils, (124) 534
  uterine postclimacteric, due to relative hypothyroidism, *2157
  uterine, significance of, (97) 1377—ab, (56) 1903—ab
Hemorrhagic diathesis of new born, gelatin in, (134) 86
Hemorrhoids, diagnosis and treatment of (109) 959
  and prolapse, inflatable pessary for, (98) 265
  in children, (47) 2192
  injection treatment of (55) 440
  internal operative treatment of, (76) 2189
Hemorrhoids, new operation for, (8) 2258—ab
  radical treatment of, by excision, *2038
  relative merits of operations for, *992
Hemostasis, preventive, with Esmarch-Silvestri technic modifications in blood in, (125) 178
  temporary, during removal of renal calculi, (110) 20[illegible]—ab
Hemostatics, action of, in tuberculous hemoptysis, (39) 1379
Hemotropins of immunized guinea pigs, (177) 87
Hen, resection and end to end anastomosis of oviduct in, without loss of function, (32) 1108—ab
Henoch's purpura and angioneurotic edema, (28) 261
Hepatitis, amebic, presuppurative stage of, treatment of in prevention of tropical abscesses of liver, (28) 349—ab
  chronic, initial lesions in, (47) 171
Herd theory, as etiologic factor in ozena, (145) 353
Heredity and disease, (97) 793, (1) 1820
  and environment, relation of, to life expectancy, (75) 2091
  and inheritance, (10) 2190—ab
  and social problems *1224
  disease and death, (129) 1820
  experimental research on, (94) 2010 (10) 2190—ab
  explosion of theory of, (7) 1183—ab
  in cancer, (3) 2190—ab
  in diseases of nervous system, (2) 2189—ab, (11) 2190—ab
  influence of on tuberculosis, (4) 2181
Hermaphrodism, (80) 799
  case of (25) 1107
Hernia, (120) 260, (96) 1466
  and herniotomy, (27) 707
  as understood and treated by past and present surgeons, (65) 868
  complicated by gangrenous appendicitis, *754
  congenital, umbilical, successfully operated on, (25) 972
  curative versus palliative treatment of, (106) 442
  femoral, (25) 439, (20) 622
  femoral, rare variety of, (117) 1281
  femoral incarcerated, containing appendix, *1154
  femoral Ruggi's method of treating, (127) 1290
  history of operations for, (122) 800
  in linea alba, (31) 945—ab
  in sacrosciatic foramen, (62) 376—ab
  incarcerated atropin in (101) 2011
  incarceration of, by subperitoneal lipoma, (99) 2011
  inguinal, choice of procedure in radical treatment of, in adults, (62) 2007
  inguinal cocain as local anesthetic in radical operation for, (95) 1552
  inguinal, direct, (20) 2236
  inguinal, early diagnosis of, (141) 1188
  inguinal, individualization in treatment of, (121) 878
  inguinal oblique, radical operation for (34) 2001
  inguinal, of uterus, (61) 2008—ab
  inguinal, pulmonary embolism after radical treatment of, (41) 629—ab
  inguinal, radical operation for (118) 1042, (143) 1188
  inguinal, treatment of undescended or maldescended testicle with, (31) 1372—ab
  internal intestinal, origin and treatment of, (113) 1289
  internal strangulated, or internal intestinal strangulation, (21) 1107—ab
  into duodenojejunal fossa, (51) 1034
  intra-abdominal rotation of great omentum, unaccompanied with, (27) 1107—ab
  management of (107) 1819
  Meckel's diverticulum in, (31) 1467
  of appendix, complicated with appendicitis, (28) 1033
  of bladder, (75) 2097—ab
  of brain, anatomy of, (55) 1556
  of diaphragm, origin and treatment of, (109) 633
  of gravid uterus after Cesarean section (144) 360
  of tube and ovary, complicated by strangulation of intestine, (11) 914
  operation Kocher's modification of, (124) 1117
  primary tuberculosis in, (58) 1280—ab
  right mesojejunal, (140) 1111
  sac, anatomy and pathology of, (5) 1111—ab
Hernia, sliding, (94) 109—ab
  strangulated, stenosis of intestine following, (48) 2192
  strangulated, treatment of gangrene in, (7) 171—ab
  through semilunar line, and direct inguinal hernia, (1) 1377—ab
  umbilical, (66) 1648
  umbilical, advantages of double flap method in radical operation for, (62) 1286—ab
  umbilical, congenital, (13) 1072
  umbilical, in infant, flannel roller bandage in, (40) 440
  umbilical simplified operation for, (50) 1822—ab
  ventral, (91) 533
  ventral, operation, (96) 1733
Hernias incarcerated (57) 1907
  inguinal and femoral, local anesthesia for operations on, (125) 1117
  large, in children, (42) 1907
  large umbilical and abdominal, Graser's operation for, (66) 264—ab
  multiple, of cerebrum and cerebellum, due to intracranial pressure, (111) 869
  umbilical, (102) 2099
Herniologic notes, (90) 2194
Herniotomies, remote results of, at Upsala, (122) 800
Herniotomy, (95) 1377
  and hernia, (27) 707
  in children, (49) 1551
Herpes of membrana tympani, due to zosteroid affection of petrosal ganglion (35) 1108
  zoster ophthalmicus and paralysis of trochlearis, (129) 1282
  zoster oticus, facialis, with facial palsy and auditory symptoms, in herpetic inflammations of geniculate ganglion, (36) 866
  of geniculate ganglion, characterized by herpes zoster oticus, facialis, or occipitocollaris, with facial palsy and auditory symptoms, (36) 866
Hexamethylenamin, excretion of, (85) 77
Hides sterilizing action of sunlight on 663—ab
High frequency apparatus for Keating-Hart technic, (106) 358
  currents and hysteria, (90) 2010—ab
  currents and ultraviolet ray in neurasthenia, (11) 2185
  current and x rays in leprosy, (42) 1112—ab
  currents therapeutic application of, (48) 355
Hip joint, deceptive conditions in, (3) 1031
  deformity with lumbar scoliosis, (68) 1039
  disease, (118) 1377, (85) 1904
  disease, cause of flexion in, (107) 77
  disease, tuberculous, influence of weight bearing on treatment of, (113) 1553
  dislocation and congenital muscular rigidity, (80) 357—ab
  dislocation, congenital, (2) 260—ab, (81) 351, (70) 1648
  dislocation of, congenital, treated by open operation, (137) 1282
  dislocation, congenital, treatment, (60) 1738, (48) 1822, (40) 2006
  dislocation, dorsal, reduction of, (38) 1640—ab
  dislocation, rare, (47) 797
  irreducible forward dislocation of, operative treatment of, (43) 797
  non tuberculous bone infections about, (14) 1184—ab
  resection of, with interposition of flap of muscle, (109) 1826
  tuberculous disease of (8) 261—ab
Hip muscles, physiologic action of, (45) 1555
Hirsch technic for weight bearing stumps, (49) 713
Hirudinea as human parasites in Palestine, (50) 1039
Histoplasmosis fatal infectious disease resembling kala azar found among natives of tropical America, (22) 1816—ab
Hodgkin's Disease See Pseudoleukemia
Hoffa, A, (111) 1552
Holloway, J M, late extracts from war correspondence of, (86) 793, (125) 1377
Homatropin hydrobromate, toxic symptoms following instillation of, (100) 442
Home and sanatorium treatment of tuberculosis (46) 2188
  and school, preventive medicine in, (79) 948
Homeopathy of Hahnemann compared with that of to day, (107) 793—ab
Honolulu school of tropical medicine, (85) 169
Hookworm, American — uncinariasis, (135) 626
Horns, human, *1326
Horny substances, composition and importance of, (106) 1116
Horse serum, mechanism of anaphylaxis and to, (33) 712
Hospital and professional anesthetist, (8) 789—ab
  construction, (76) 1818—ab
  gynecology, (40) 623—ab
  histories, (39) 623—ab
  New York State, for Crippled and Deformed Children, (119) 626
  psychopathic, and psychiatric and neurologic wards, (13) 944
  Rotunda, clinical reports of, (57) 1039, (32) 1190, (32) 2006
  Rotunda, pathologic report of, (26) 2094
  treatment in incipient insanity, (19) 1377
  voluntary, future of, and its relation to reformed poor law medical service, (10) 261
Hospitals and camps, consumptive, are they menace to neighborhood? (14) 360—ab
  cottage, construction of, (13) 261
  general and provident system, (11) 261
  home, for middle classes, (12) *261
  maternity, mortality and morbidity of child bearing women could be reduced if they were more in favor, (22) 623—ab
  promotion of uniformity in registration of diseases in, (15) 261
  public medicine and medical studies (24) 1645—ab
Hot Springs, hot baths at, (52) 1817
  of Virginia, (8) 2098
Housing problem, (70) 1818
  and medical profession to, (6) 1106
Human element in medicine, (21) 1901—ab
Humerus, epiphyseal displacements, treatment of, (35) 74—ab
  fracture-dislocation of, (33, 34) 74—ab
  fracture dislocation of, operative indications, (58) 441, (65) 624
  fracture of supracondyloid, reduction of, (40) 1372—ab
  fracture of, treatment, (35) 74—ab
Humor, wit and insanity, (34) 1821
Hunter, J, master mind in medicine, (103) 442
Hyalin corpuscles in plasma cells, (123) 634
  production of, in arteries, (119) 359
Hydatid cysts of spleen (43) 873—ab
  disease in long bones, (71) 1114—ab
  disease in West Australia, (27) 80
  disease of muscles (87) 1194
Hydatidiform mole, histology of, (60) 1113
  symptomatology and diagnosis of, (118) 1914
Hydrazin poisoning, pathologic anatomy of, (151) 870
Hydroa puerorum, (115) 260
Hydrobromate, homatropin, toxic symptoms following the instillation of, (100) 442
Hydrocele and spermatocele, (134) 170
  double abdominal, (7) 1038
  of inguinal canal and venous thrombosis, (44) 1033
  radical cure of, by inversion of tunica vaginalis, (48) 623
  treatment of, (119) 1042—ab
Hydrocephalus, cerebellar symptoms in, *1933
  epilepsy, and tumors, puncture of corpus callosum in, (110) 1042—ab
  extraordinary case of, *128
  in small children, treatment of, (58) 1909—ab
  obstructive, following cerebrospinal meningitis intraventricular injection of antimeningitis serum, (159) 870
  of meningococcus origin, (101) 1819—ab
  operative treatment of, (93) 1115—ab
  subcutaneous continuous drainage of ventricles in, (78) 2[illegible]6—ab
Hydrogen dioxid influence of on secreting functions of stomach, (59) 1910—ab
  systematic inhalation of, in prophylaxis of measles, (99) 176
  test for blood in urine, [illegible]—ab

Hydrolysis of chicken meat, (34) 1278
  of legumelin from pea, (46) 1731
  of vetch legumin, (33) 1278
  of vicilin from pea, (45) 1731
  of vignin of cow-pea, (53) 1108—ab
Hydronephrosis, and abnormal renal vessels, (125) 1652
  etiology of, (40) 1730
  in children and its treatment, (110) 1733—ab
  plastic operations on kidney pelvis and upper segment of ureter for, (66) 356—ab
Hydrophobia, (72) 1280—ab, (81) 2189
  causes of failures in treatment of, (52) 445—ab
  in Philippines, *2143
Hydrops of joints, intermittent, (28) 167
Hydrorrhea of amniotic fluid, (123) 717
Hydrotherapy, (90) 533
  in arteriosclerosis. (86) 2098
  in childhood, (63) 257—ab
  in mental and nervous diseases, (6) 1461—ab, (148) 1906
  in scarlatina, *1304
  methods of application, *1420
Hygiene and diet of children, (91) 2189—ab
  and sanitation: domestic, municipal, national and international, (77) 869
  exact, a negligible factor in sick-room, (182) 951
  in China, (33) 796—ab
  instruction in, a necessity for both teachers and scholars, (103) 534
  military and camp sanitation, (86) 1466
  of eye in school children, (44) 623—ab
  of nipples, (74) 1193
  personal and school, training of teachers in, (12) 871
  rural and village, (44) 946
  school, (32) 1112, (153) 1906
  state medicine and materia medica, (66) 1375
Hygienic Institute, dedication of, (106) 2011
Hymen, anatomy of, (98) 534—ab
  intact, speculum for vagina with, (81) 447
Hyoscin-morphin anesthesia in obstetrics, (133) 793, (12) 1377
Hyperacidity, gastric, origin of, (76) 1381—ab
Hyperalgesia after injuries of skull, (101) 448—ab
Hyperalimentation of consumptives, dangers of, (25) 1554—ab
Hyperemesis: See also Vomiting.
Hyperemia, (102) 77, (106) 626, (7) 627, (94) 949, (118) 1111, (28) 1112, (14) 1189, (8) 1549, (57) 1823—ab, (49) 2188—ab
  action of, in animal experimentation, (73) 264—ab
  and hypertransudation, treatment of chronic empyema by, (6) 1111—ab
  and iodoform glycerin, in surgical tuberculosis, (15) 2093
  attempt to explain action of, (86) 632
  constriction, action of, on animals, (58) 1557—ab
  constriction, in meningitis, (143) 86—ab
  constriction, in neuroses, (112) 169
  constriction, method of, regulating pressure in, (10) 255—ab
  experimental, in streptococcus infection in rabbit's ear, (100) 1913—ab
  how to enhance its curative efficiency, (106) 626
  in acute inflammations, (84) 632—ab, (136) 870, (40) 1112—ab, (2) 2092
  in affections of the nose, (141) 718—ab
  in dispensary practice, (116) 1383
  in flatfoot, (75) 639
  in nephritis, (101) 1041
  in neuroses, (28) 1462—ab
  in suppuration, (69) 1286—ab
  in surgery, (130) 950
  induced, (8) 2190
  induced venous, experimental tuberculosis of kidney with, (102) 266
  of brain, in incipient arteriosclerosis, (71) 955—ab
  passive, and cupping, in acute suppurative infections, (26) 1640—ab
  passive, in rheumatoid arthritis, tuberculosis, sepsis and other conditions, (35) 1736
  suction, its use in urology, (128) 85—ab
  venous, in alopecia, 1389—ab
Hyperglycemia, glycolysis, glycosuria, and diabetes, (31) 2094
Hyperidrosis, unilateral, (78) 175
Hyperinflation, eustachian catarrh with, (89) 1552
Hypernephroma, clinical study and pathologic reports, (25) 1640
  four cases of, (158) 950
  in vulva as only metastasis of malignant hypernephroma, (96) 1913
  of kidney, and tumors of adrenal origin, (1) 1460—ab
  malignant renal, atypical forms of, and their chemical characteristics, (140) 442
Hyperplasia and atrophy in liver in consumptives, (101) 1472
  of hypophysis, hypertrophy of heart, arterial hypertension and suprarenals, (29) 796—ab
  of thymus in Addison's disease, (105) 877
Hyperpyrexia, (12) 1038
  in children, *1920
Hypersusceptibility, reaction of, as produced by bacterial inoculations, (107) 869
  to horse serum, *840
Hypertension, arterial, hypertrophy of heart and hyperplasia of hypophysis and suprarenals, connection between, (29) 796—ab
Hyperthermia, significance of, (61) 2097—ab
Hypertonia vasorum cerebri, (75) 710—ab
Hypertransudation and hyperemia, in chronic empyema, (6) 1111—ab
Hypertrichosis and port-wine marks, removed by x-rays, (38) 873
  x-rays in, (21) 1820
Hypertrophy of clitoris, (50) 1113
  of heart, arterial hypertension and hyperplasia of hypophysis and suprarenals, (29) 796—ab
Hypnoidization in functional psychoses, (42) 2187
Hypnosis in hay fever, (120) 1473
Hypnotism, inebriety treated by, (90) 1466
Hypophysis and acromegaly, (59) 1557—ab
  glycosuria and its relation to diabetes mellitus in acromegaly, (116) 1827—ab
  hyperplasia of, hypertrophy of heart, arterial hypertension and suprarenals, connection between, (29) 796—ab
  removal of, for adipose genital degeneration, (103) 877—ab
  tumors in, and acromegaly, (124) 878—ab
Hypospadias, female, incontinence of urine from, and its treatment, (129) 359
  treatment of, in adults, (127) 2197
Hypothyroidism, relative, postclimacteric hemorrhage due to, *2157
Hysterectomy, abdominal, for cancer of cervix, immediate mortality of, (14) 2190
  abdominal, for fibroids, in London, (11) 443
  abdominal, for rupture of ureters, (24) 2094—ab
  abdominal, technic of, *1563
  factor of mortality in, (44) 707
  for cancer, immediate and remote results of, (59) 2008—ab
  for menstrual reflex epilepsy, (127) 1742—ab
  prolapse of rectum and sigmoid, following, *1125
  repair of bladder and recovery, *1406
  simple, in simple cases, (38) 167
  supravaginal, preservation of ovarian tissue in, (42) 75—ab
  supravaginal, simplified technic for, (36) 167
  vaginal, (126) 626
  vaginal, in pregnant women, recovery, (129) 626
  vaginal, radical operation for inversion of vagina and enterocele after, (124) 1742
Hystereurynter, funnel-shaped, (95) 1115—ab
Hysteria, (88) 2189—ab
  and high-frequency electricity, (90) 2010—ab
  and neurasthenia, psychology of, (24) 1377—ab
  and suggestion (35) 796
  nature and treatment of, (140) 1734
  revised conceptions of, (42) 537—ab
  treatment of, (75) 1471—ab, (71) 2003—ab
Hysteropexis hypogastria, pregnancy, parturition and puerperium after, (3) 1553—ab
Hysteropexy, inguinal, (120) 1561—ab

I

Ichthyosis, acquired, (151) 535
  fetal, placenta and membranes involved, (37) 1816
  leukemia complicated by synovitis in youth with, (30) 1378
  or acanthosis—which? (82) 710
Icterus, chronic acholuric, with splenomegaly, (87) 1288
  nerve nucleus, of infants, (95) 799—ab
Ideal in medicine, (74) 868—ab
Ideals and ideas in medicine, (72) 1186—ab
Ideas and ideals in medicine, (72) 1186—ab
Identification, individual, dorsal veins in hand as means of, (94) 956
Idiocy, diagnostic delimitation of forms of, (101) 1650
Idiosyncrasies, (73) 1470
Idiosyncrasy to aspirin, (85) 955
  to eggs, (153) 86—ab
Ileocolic arches, (105) 1377
  circle, (11) 2233
Ileocolitis in boy of three, complicated by tapeworm, (111) 1282
  of infants, simaruba in, (29) 1372
  with intoxication, *2156
Ileum and jejunum, primary carcinoma of, (49) 797
  sarcomatous tumor of, removed by resection of bowel and end-to-end anastomosis, (39) 1112
Ileus, (26) 1372
  and peritonitis, pulse in, (130) 267
  chronic, (112) 626
  clinical manifestations of, (71) 258—ab
  duodenal-jejunal, or acute dilatation of stomach? (71) 1648
  from constriction of intestine by tube, (81) 632
  gallstone, (5) 1282, (84) 1471—ab
  gastromesenteric, acute and chronic, cured by duodenojejunostomy, (41) 1464
  postoperative, (26) 707
  postoperative, from re-enforcing suture, (87) 1471
  postoperative mechanical, (48) 947
  symptoms of, in latent appendicitis in young, (103) 2194
  treatment of, (72) 258—ab, (69) 356—ab
Iliac swellings, diagnosis of, (28) 952
Iliacus, psoas parvus and psoas magnus, tenotomy of, in spastic spinal paralysis in adult, (103) 1826—ab
Iliopsoas and head of femur, abscess between, (40) 2191—ab
Illinois, normal waters of, (78) 1466
  public health laws in, (84) 1036—ab
  State Board of Charities, what it is accomplishing, (73) 169
  treatment of pulmonary tuberculosis in, (77) 441—ab
Illness caused by bacillus paratyphosus, type A, (120) 1652—ab
  last, of King Oscar II., (121) 1652
  or injury, employers' liability for, (23) 2190
Illumination, artificial, of school rooms, (119) 1905—ab
Iloilo, P. I., epidemic of typhoid at, (82) 169
Imagination, rôle of physician in producing or maintaining maladies derived from, (47) 1374—ab
Imbeciles, legal restraint of, (108) 534—ab
Imbecility and crime and legal restraint of imbeciles, (108) 534—ab
Immunity, (126) 1037, (49) 1185
  against vaccinia in animals, (29) 2190
  and ferment action, (74) 875
  and tuberculosis antibodies, (67) 630, (58) 1193, (100) 1650
  from yellow fever, how it may be acquired, (164) 1189
  in bacilli carriers, (18) 1735
  opsonic, nature of, (29) 256
  passive, conferred by serum treatment, (53) 81
  phagocytic, and therapeutic injection of dead bacteria in endocarditis, *1571
  production of, to dysentery toxin, (19) 1735
  to tuberculin, (87) 1912—ab
Immunization by revaccinations, (47) 873
  therapeutic, (25) 80—ab, *571
  tuberculin, in tuberculosis, (53) 791—ab, (123) 1188—ab
Immunized guinea-pigs, hemotropins of, (177) 87
Immunizing properties of diplococcus cultivated on organ extracts, (138) 267
Impetigo-contagiosa, (7) 621
  and diphtheria in child, (5) 870
Impulse, condition of, to auricle, disturbances in, (59) 2097—ab
Inaugural symptoms, (1) 2234—ab
Incineration in military stations, (25) 796—ab
Incision, antiferment treatment of suppuration without, (91) 799
  exploratory, (77) 1375
  legal aspect of, (65) 1818
Incisions, vaginal, vertical-abdominal, and Pfannenstiel, *912
Incisor, protruding, early treatment of, (6) 353
India, dementia præcox in, (38) 445
  domestic animals of, are they affected by plague? (25) 628
  sanitation in, (3) 1820
  seasonal prevalence of plague in, (29) 628
  southern, cancer of mouth in, (14) 79—ab
  typhus in, (36, 37) 445
Indian ports, seven-day fever of, (26) 354
Indians, Alaskan, sanitary conditions among, (50) 623
  fresh from plains, refraction in, *308
Inductorium, calibration of, for break shocks in faradic stimulation, (69) 350—ab
Indican in urine and indol in stools, lack of connection between proportion of, (67) 1114
Indigestion, gastrointestinal, nervous manifestations of, (126) 1111
Indigo carmin, methylene blue and sodium carminate, kidney secretion of, (50) 1108—ab
Indol in stools and indican in urine, lack of connection between proportion of, (67) 1114
Industrial accident insurance, importance of graphic registration of neuromuscular reactions for, (70) 1039
  accidents, compensation for, and traumatic inflammation of joints, (60) 1380
  dermatitis, (21) 1038
  disease, international committee on, (23) 1038
  diseases, notification of, (20) 1038
  evils, (69) 2188—ab
Inebriates, acts relating to, (18) 1377
  and dipsomaniacs, Massachusetts State Hospital for, (82) 2189
  psychic treatment of, (45) 349
  why Pennsylvania should build, equip and maintain hospital for restraint, care and treatment of, (96) 169
Inebriety and crime, (92) 1466
  as cause of deaths at Basle, (137) 1043
  treated by hypnotism, (90) 1466
Infancy: See also Infant and Infants
  and childhood, care of mouth in, (12) 2186—ab
  and childhood, diet in, (19) 712
  and childhood, gastrointestinal diseases of, (73) 948
  and childhood, summer diarrheas of, (137) 531
  and childhood, tuberculosis in, (71) 441
  early, and pregnancy, syphilis in, (51) 1279
  early, clinical investigation in, (26) 1907
  early, digestion and nutrition in, special characteristics of, (45) 1285—ab
  muscular dystrophy following acute poliomyelitis in, (116) 949
  nephritis in, (37) 1167
  obscure fever in, (3) 347—ab, (86) 869—ab
Infant anatomy, peculiarities of, (100) 2189
  and fetus, shape of ureters in, (63) 538
  anorectal imperforation in, surgical treatment of, (30) 1640—ab
  anorexia nervosa in, (57) 257
  Bell's palsy in, (44) 440
  binders, dangers and evil effects of, (11) 172—ab
  diarrhea, and dysenteric bacilli, (50) 76
  eight months', gangrenous purpura in, (30) 173
  feeding, (46) 75—ab, (132, 133) 260, (112) 352, (42) 440—ab, (16) 623, (23) 1372, (65) 1552, (40) 1816, (52) 2090
  feeding and symptoms of inherited syphilis, (153) 1475
  feeding, artificial, for general practitioner, (40) 1816
  feeding, artificially drawn breast milk in, (111) 449

- Infant feeding, breast and artificial, (112) 352
  - feeding, breast, importance of, for reduction of infant mortality and means to promote it (107) 1473—ab
  - feeding, criteria and standards in, *1687
  - feeding, distribution of bacteria in bottled milk and its application to (146) 1282
  - feeding, fallacious standards in, *1214
  - feeding, high fat percentages in, *1219
  - feeding, kefir in, (94) 632—ab
  - feeding of healthy, *101
  - feeding, starch in, (41) 76
  - flannel roller bandage in umbilical hernia in, (40) 440
  - food, reliability of sterilized and pasteurized milk as (142) 1906
  - four days old, tetany in *755
  - fractured femur in, (92) 1643
  - gangrene of extremities in, (48) 867—ab
  - having enlarged thymus gland with three lobes, sudden death of, (66) 792
  - hemorrhagic diseases of *2215
  - injuries in, produced by attempted artificial respiration, (48) 2002—ab
  - kidney lesions in, (58, 59) 257—ab
  - mortality, *1045, (12) 1111, (48) 1379
  - mortality and legislation in Great Britain, (15) 1189
  - mortality, causes of, (63) 1470—ab
  - mortality, importance of breast feeding for reduction of, (107) 1473—ab
  - mortality in Norway, influence of various causes of death on, (122) 84
  - multilocular cyst of neck in, (42) 445
  - new born, erysipelas in, (35) 629
  - new born, fracture of femur in, (15) 79—ab
  - new born, habitual malignant jaundice in, (104) 2011—ab
  - new born, hemorrhagic diathesis of, gelatin in, (154) 86
  - new born, lachrymonasal duct in, imperforation of, its clinical manifestations, *188
  - new born, paratyphoid and melena in, (62) 264—ab
  - new born, sclerema in, (97) 799
  - nutrition, available alkali in ash of human and cow's milk in its relation to, (23) 1033—ab
  - polioencephalitis of, (52) 1552
  - rheumatism, articular, in, (53) 76
  - stomach of, development of, *1750
  - stomach, pepsin in, and dependence of its digesting power on hydrochloric acid, (97) 1116
  - stools curds in, (4) 72
  - suprarenal hemorrhage in, and hemophilia, (6) 78
  - thriving of, importance of different proportions of fat in breast milk and (56) 874
  - toxemia in, simulating cerebral hemorrhage, *1232
  - training of, (109) 1042—ab
  - urine and stools of home-made apparatus for collecting (64) 1469
- Infantile affections resulting from food (123) 1652
  - convulsions, prognosis of, (16) 1736—ab
  - digestion, *2125
  - dystrophy, progressive, of muscles, congenital muscular defects and infantile disintegration of nuclei (83) 1115—ab
  - lymphoid leukemia with nucleated corpuscles, (43) 355
  - marasmus, (17) 80
  - paralysis, *1677, *1946
  - paralysis, epidemic, *112
  - paralysis, nerve anastomosis in, (16) 348—ab
  - paralysis, treatment of, (12) 73—ab, (14) 1555
  - paralysis treatment of deformities of, (67) 1642—ab
  - paralysis, with scoliosis and muscular atrophy, (43) 1907
  - scurvy, (50) 257—ab, (79) 259—ab
- Infantilism, familial dystrophic, (136) 718
- Infants and children chronic constipation in, (47) 1817
  - and children, diabetes in (87) 1376—ab
  - and mothers institutions for caring for, (77) 1558
  - atrophic, plan of dealing with, (40) 807—ab
  - cardiospasm as cause of habitual vomiting of, (124) 1043—ab
- Infants, carrot soup in digestive disturbances in, (73) 955—ab
  - diarrhea, epidemic in, (7) 1189—ab
  - diarrhea, summer in, treatment of, (24) 1372
  - diarrheal affections of, character of stools, and intestinal findings in *1706
  - diarrheal disorders of, (147) 1734
  - digestive disturbances in due to overfeeding of fat, (175) 950
  - diseases of, progress in study of, (58) 1647—ab
  - eczema of, results with salt free diet in, (81) 579, (84) 1825
  - fat, metabolism in, (92) 1076
  - fed on foods rich in albumin, toxicity of urine and stools and intestinal putrefaction in, (152) 360—ab
  - fracture of femur in, treatment of, (16) 711—ab
  - healthy and sick, daily variations in body temperature in, (96) 1116—ab
  - hemorrhage of adrenals in, *1961
  - infections and intoxications in, (43) 1555—ab
  - influence of breast nursing in first few days after birth, (114) 877
  - infusion of salt and sugar solutions in, (66) 630—ab
  - intestinal intoxication in, (41) 440
  - intestinal microbian flora in, (71) 2008
  - nerve nucleus icterus of, (95) 799—ab
  - new born, origin of hematoma on heart valves in, (118) 359
  - new born, tracheal insufflation in, (22) 1645—ab
  - new born, treatment of depression of skull in, (98) 1288
  - nutrition disorders in, (110) 626
  - opsonic index in, (27) 80—ab
  - pneumonia in, ambulatory treatment of, *286
  - renal sarcoma in, (55) 76
  - simaruba in ileocolitis of, (29) 1372
  - skimmed milk as temporary food for, (71) 709—ab
  - skin reaction to tuberculin in, (82) 1912—ab
  - stenosis of pylorus in, (137) 353—ab, (59) 532—ab, (2) 705 (129) 1734, (73) 2091, (130) 2197—ab
  - stenosis of pylorus in, internal treatment, (130) 2197—ab
  - stenosis congenital hypertrophic, and spasm of pylorus in, (48) 708—ab
  - subperiosteal abscess in, (67) 792
  - suppurative cerebrospinal meningitis in, simulating tetany, (31) 173
  - tuberculin, cutaneous reaction in, (91) 540—ab, (94) 1559
  - tuberculosis in, laboratory diagnosis of, (57) 76
  - tumor on frenum of tongue in, (89) 1649
  - urinary infection in, (36) 873
  - urinary findings in intestinal infection in, (38) 2002
  - with inherited syphilis, brain findings in, (80) 1912—ab
  - with inherited syphilis, serum diagnesis in mothers of, (84) 876—ab
- Infection, acute, of female pelvic organs, treatment of, (88) 169—ab
  - air of minor importance, *2048
  - and asepsis, influence of, on technic of delivery by Cesarean section, (61) 1648—ab
  - avoidance of, during intestinal anastomosis, (36) 1731—ab
  - by upper air passages and digestive tract, (116) 1651—ab
  - contact, epidemic typhoid and, (83) 169
  - in tuberculosis, (2) 72—ab
  - neoplastic, of nerves and arteries, in cancer and cirrhosis of liver, (128) 1914
  - of man by dipterous larvæ, (37) 2002
  - of operative wounds by malignant disease, *748
  - pneumococcus, parotitis from, (130) 1465—ab
  - puerperal, collargol in, (84) 81
  - puerperal, disinfection of uterus in, (140) 1734
  - puerperal, fixation abscesses in, (17) 2235—ab
  - systemic, relation of tonsils to, (181) 171
  - transmission of, from puerpera to child, (95) 622—ab
  - wound puerperal, etiology of, (137) 2198
- Infections, acute, sodium nucleinate, in, (14) 2188
  - acute, theory of therapeutic injections of fresh normal serum in, (64) 792
  - and intoxications in infants, (43) 1555—ab
  - bacterial, therapeutic application of stock vaccines in, (3) 1466
  - of kidney, acute unilateral hematogenous, (142) 353—ab
  - of knee joint, treatment of, (80) 1904
  - surgical, vaccine therapy in, (18) 2089—ab
- Infectious diseases and milk to, *1191
  - complement fixation in, (66) 1911—ab
  - growth of knowledge in, (84) 710
  - house fly as agent in dissemination of, (60) 1105—ab
  - joint affections caused by, (63) 868—ab
  - neutrophile blood picture in, (149) 1475
  - opsonic index in diagnosis of, (88) 1649
  - pyocyanase in, (97) 2194
  - symmetrical gangrene of legs in, (116) 1914
  - tonsillar ring and paranasal sinuses as portals of entry of, (87) 2004
  - total deafness following, (127) 870
  - vaccine therapy of, (47) 2007
  - what should be taught regarding dangers of, in first aid courses? (67) 356—ab
- Infective processes, influence of nervous system on, (12) 2093—ab
- Inflammation, acute, hot air in, (120) 1827—ab
  - acute stasis hyperemia in, (136) 870, (40) 1112—ab
  - endometritis and importance of plasma cells in, (132) 359
  - acute, hyperemia in, (2) 2092
  - influence of different colored light on, (83) 1559—ab
  - passive congestion in, (40) 1112—ab
  - pericolic, (145) 1734
  - significance of, treatment, (71) 1818
  - traumatic, of joints and compensation for industrial accidents, (60) 1380
  - traumatic, serous, rheumatic origin of, (2) 2234—ab
  - treatment of, *382
  - tumors from, (46) 1646—ab
- Inflation of stomach, lavage and rapid method of test meal removal, (81) 1280—ab
- Influence, correlation of, (18) 1278
- Influenza, (144) 870
  - and appendicitis, (102) 448—ab
  - cerebral, (9) 79—ab
  - and pneumonia, relation of anticyclonic weather to prevalence of, on northern hemisphere, *660
  - clinical features of, since pandemic of 1889 1890, (96) 1281
  - complications and sequelæ of, (148) 171
  - diagnosis from morphologic standpoint in stained specimens of sputum, (6) 166—ab
  - ear complications of, treatment, (50) 1468—ab
  - encephalitis due to, simulating tetanus, (83) 176
  - epidemic, etiology of (47) 1903—ab
  - inflammation of accessory nasal sinuses as sequel of, (99) 352
  - therapeutics of, (66) 76—ab
  - treatment of, (150) 1906
  - types of, (31) 2006
  - unhealthy tonsils of, (86) 1110
- Infundibulum bougies for dilatation of, (23) 1467
- Infusion, adrenalin saline intravenous, efficacy of, (115) 266—ab
- Inguinal canal, exploration of, (29) 1555—ab
  - venous thrombosis and hydrocele of, (44) 1033
- Inheritance and heredity, (10) 2190—ab
  - of certain human abnormalities, (34) 262—ab
- Injection and dietetic method of treating typhoid, (69) 792—ab
  - intravenous of blood corpuscles of foreign species, cause of sudden death following, (53) 1903—ab
  - repeated, of large amounts of curative sera, dangers of, (102) 1382
- Injections, intrauterine, dangers and uses of, (51) 1647—ab
  - subcutaneous, collapsible cartridge method for, (93) 1740
- Injuries after effects of, (35) 1646
  - crushing, conservative surgery in, (96) 1377
- Injuries crushing, of extremities, (136) 170
  - from lightning and electricity, (78) 715—ab
  - minor, (95) 1644—ab
  - surgical, brought on by violent exercise, (3) 442
- Injury, loss or damage on account of, duty of injured person to make as light as possible, (89) 793
  - or illness, employers' liability for, (23) 2190
- Inky polygraph, (12) 172
- Innervation and duct arrangement secretory functioning of stomach glands with abnormal conditions of (97) 1913
- Inoculation, diagnostic, with fat free tuberculin, (107) 449
  - of substances other than products of bacterial origin, production of agglutinins in animal body by, (157) 870
- Inoculations, bacterial, (113) 1282
  - bacterial, reaction of hypersusceptibility as produced by, (107) 869
  - therapeutic, pseudodiphtheria bacillus infections with their response to, (106) 869
- Insane asylum, Dacca, outbreak of epidemic dropsy in, (38) 1757—ab
  - hospital for, and psychiatric and neurologic wards, (13) 944
  - development of legal relations concerning, suggestions for reform, (6) 1815—ab
  - hospital for, experiences of patient in, (56) 257, (96) 626, (161) 1037, (103) 1187, (87) 1643, (97) 2004
  - hydrotherapy in treatment of, (6) 1461—ab
  - Maryland hospital for, (124) 1644
  - mental processes, sane prototypes of (41) 2187—ab
  - physiologic significance of first lesson in, (9) 2233—ab
  - reflexes in, (60) 624—ab
- Insanity, alcoholic, (49) 349, (95) 626
  - and tuberculosis, inheritance of, (19) 628
  - caused by acute and chronic intoxications with opium and cocain, *97
  - confusional, and dementia præcox, (122) 1553—ab
  - genesis and transmissibility, (17)
  - incipient, hospital treatment in, (19) 1377
  - inheritance of, statistical points in, (23) 1377
  - medical expert testimony on, plea for corrective legislation, (93) 1552
  - monomania, or partial insanity, plea of, (37) 873
  - traumatic, (12) 1549
  - what is constituted in? (89) 259—ab
  - wit and humor, (34) 1821
- Insects, disease transmitting, campaign against, (97) 1740
  - in epidemiology of plague, (24) 628—ab
- Institutions, state charitable, medical administration of, (74) 169
- Instrument and technic for adenoidectomy, (104) 1552
  - ear speculum with handle, *1330
  - for determination of venous pressure in man, (47) 1464
  - for estimation of albumin in urine, *1511
  - for separating jaws, (4) 347
  - for tonsillectomy, (154) 171, (41) 173
  - for treatment in ear diseases, (87) 1552, (55) 1817
  - knife for iridotomy, (103) 1466
  - motor for bone surgery, (50) 1034
  - obstetric perforator, (125) 717
  - penis clamp for use in acute gonorrhea, (26) 623
  - rectal speculum, (41) 1551
  - shovel retractor, for operations on biliary passages, (80) 2097
  - simple, for bladder operations, (111) 717
  - speculum for vagina with intact hymen, (81) 447
  - syringe for removal of foreign bodies from ear, (63) 1193
  - tonsil forceps, *1696
  - uterine tenaculum, *1695
- Instruments, hammer and plessimeter for threshold percussion of heart, (89) 876
  - metal, sterilization of, (114) 800
  - practical, for kidney surgery, *1927
- Insufflation of air in pleural effusion, (59) 1380—ab
  - tracheal, in new born infants, (22) 1645—ab
- Insurance examination complete, necessary facts for, (92) 352

Insurance indemnity, accident, value of vision in its relation to, (116) 869
  industrial accident, the importance of graphic registration of neuromuscular reactions for, (70) 1039
International-congress of Urology, first, what it has accomplished, (61) 1738—ab
  on tuberculosis, (23) 945
  on tuberculosis, impressions of visitor to, (83) 1819
International Sanitary Convention, proceedings of the third, (12) 1901
Intestinal: See also Intestine
Intestinal anastomosis, *546
  anastomosis, avoidance of infection during, (36) 1731—ab
  anastomosis of mucosæ with rubber sutures, (138) 359—ab
  anastomosis with actual cautery, modification of technic for, (58) 355
  anastomosis without open incisions by basting stitches, (51) 168
  and stomach cases, (9) 1549—ab
  and stomach disturbance, commonly overlooked causes for, (75) 1280—ab
  and stomach gases, (13) 1462—ab
  autoinfection with colon bacillus, (104) 1289
  button, galalith, (61) 356
  canal, flushing with salt solution through multiple enterotomy openings, (107) 260—ab
  fermentation, dyspepsia from, (65) 174—ab
  infection in infants, urinary findings in, (38) 2002
  intoxications, (18) 712—ab
  invagination, pathogeny and treatment of, (44) 629—ab
  juice and human pancreatic, enzymes of obtained through jejunal fistula, (60) 1732
  parasites locating outside of intestine, (59) 954
  putrefaction, substances indicating, determination in breast milk of, (49) 174
  tears, following unoperated appendiceal abscesses and their medicolegal relations, (74) 624—ab
Intestine, amebas in, (30) 256—ab
  Anastomosis of: See Intestinal Anastomosis
  and kidney, functions of, in care of postoperative patients, (27) 866
  and stomach, starch digestion in, (44) 1555
  bursting of, from abdominal straining, (68) 798
  cancer of, and foreign bodies, (57) 2008—ab
  cauterization of inner surface of, glycosuria experimentally induced by, (79) 356
  ciliata of, and parasitic flagellata, cultivation of, (95) 869
  deprived of mesentery, omentopexy to, (4) 1105—ab
  elastic clamp for, (85) 1194
  excision of over fifteen feet of, and perforation of uterus during curettage, (77) 1818
  fevers originating from, in children, (146) 1926
  functioning, tests of, and their results, (74) 175—ab
  gangrene of, invagination versus resection for, *472
  gas cysts of, *1291
  ileus from constriction of, by tube, (81) 632
  increased peristalsis of, with undissolved substances in stools, (61) 1910
  intestinal parasites locating outside of, (59) 954
  large, axial torsion of, in relation to pregnancy and childbirth, (116) 1117
  large, cancer of, (130) 442
  large, cancer of, colectomy for, (47) 629—ab
  large, complete exclusion of, for rebellious hemorrhages in syphilis, (85) 1471
  large, congenital backward displacement of, (62) 1286—ab
  large, traumatic rupture of, operation, recovery, (14) 172
  large, physiologic importance of various segments of, (99) 448—ab
  multiple polypi of, healing intussusception in, (35) 1640
  obstruction of, (121) 870, (167) 1189, (104) 1282, (70) 1904, (127) 1906
  obstruction of, acute, and intussusception, (7) 1106
  obstruction of, acute, and postoperative obstruction, (48) 1641
Intestine, obstruction of, acute, early recognition and operation in, (131) 1553—ab
  obstruction of, acute, in hemophilic, (4) 1111
  obstruction of, acute, principles underlying treatment of, (1) 1549—ab, (83) 1613—ab
  obstruction of, acute, surgical treatment of, (39) 74—ab, (20) 1107
  obstruction of, by gauze sponge, *841
  obstruction of, chronic peritonitis with, *719
  obstruction of, postoperative, (101) 1110
  obstruction of, simulating appendicitis, (15) 1032
  occlusion, postoperative, of, (115) 2012—ab
  paroxysmal excessive secretion of mucus of, (42) 953—ab
  perforation of, in typhoid, (138) 1734
  perforation of uterus with injury of, (122) 1742
  resection of over fifteen feet of, (77) 1818
  restoration of continuity in, following formation of artificial anus, (93) 186—ab
  small, and stomach, perforations of, (19) 1184
  small, fecal obstruction of, and plea for earlier recognition and treatment of intestinal obstruction, (85) 1281
  small, invagination of, from inward protrusion of Meckel's diverticulum, (99) 2194
  small, malignant disease of, (8) 794
  small, sarcoma of, (5) 2233
  small, successful removal of dermoid cyst from mesentery of, (105) 2191
  stenosis of, experimental, elastic tissue in, (132) 717
  stenosis of, from submucous hematoma in hemophiliac, (50) 1909
  stenosis of following strangulated hernia, (48) 2192
  strangulation of, complicating hernia of tube and ovary, (11) 914
  strangulation of, internal, (21) 1107—ab
  tuberculosis of, primary, in adults, (105) 1560—ab
  ulcers, caused by dilatation in, (134) 1474
Intestines and stomach, diagnosis of diseases of, by x-rays, (7) 710
  aseptic operations on, (77) 1040—ab, (39) 2094
  retrograde incarceration of, (103) 1116
  sarcoma of, (68) 2193
Intoxication, Acid: See Acid Intoxication and Acidosis
  from quinin, (133) 267—ab
  ileocolitis with, *2156
  intestinal, in infants, (41) 440
  phosphorus, followed by tetany, (137) 1474
  with bismuth subnitrate and its substitution with bismuth carbonate, (123) 1042
Intoxications and infections, in infants, (43) 1555—ab
Intrapulmonary-positive-pressure methods for maintenance of, *803, (64) 2193—ab
  operations under, *803, *805, *808, (64) 2193—ab
Intubation and oxygen for resuscitation in apparent death, (132) 2197—ab
  arteriovenous, angiosclerotic gangrene and treatment by, (71) 631—ab
  emphysema in skin as accident from, (58) 874
  for diphtheric laryngeal stenosis, (79) 1912
  instrument for, (103) 799
  peroral, appliances for positive lung inflation by, (141) 359
  peroral, technic of, (87) 715
Intussusception (70) 1552—ab, (6) 2092
  and acute intestinal obstruction, (7) 1106
  and Henoch's purpura, (44) 1284
  cause of, (21) 536
  healing, in multiple polypi of intestine, (35) 1640
  of jejunum, (117) 1377
Invagination, intestinal, pathogeny and treatment of, (44) 629—ab
  of descending colon, operative treatment, (181) 87
Iodin and blood, viscosity of, (53) 873—ab
Iodin and thyroid (25) 73—ab
  reduction of size of scar by application of, (96) 956—ab
Iodoform glycerin and constriction hyperemia in surgical tuberculosis, (15) 2093
Ionic medication in pelvic disease of women, (19) 80
Ions, relation of, to fibrillar contractility, (66) 350
Iowa medical laws and their enforcement, (114) 442
  State Medical Society, history of, and its connection with Iowa State University, (102) 949
Ireland, tuberculosis in, (16) 1189
Iridectomy, breaking off of point of knife while performing, (107) 1733
  vs. miotics, in chronic glaucoma, *1389
Iridocyclitis, prenatal, (128) 1188
  sympathetic, treatment of, (118) 352, (127) 1188—ab
Iridotomy, new knife and method for, (103) 1466
Iris and ciliary body, diseases of, (40) 946
  protective influence of, in perforated wounds of cornea, (138) 1037
Iritis, (115) 793
  gonorrheal, (11) 627—ab, (116) 1466
  hypopyon, and acute fibrinopurulent pericarditis in meningococcus septicemia, (44) 1903—ab
  hypopion, with epidemic cerebrospinal meningitis, (129) 1188
Iron, (9) 1901, (9) 2000, (16) 2089
  and hematin, proportions of in blood, (67) 2096
  cutaneous tuberculin reaction with tubercle bacilli substance precipitated with, (72) 631
  in secondary anemia of tuberculosis, (9) 1461
  remedies, use and misuse of, (8) 1735—ab
  splinters in eyes, (140) 718
Irrigation and drainage of bladder after prostatectomy, device for, (80) 948—ab
  rectal, continuous, (149) 870
  rectal, in typhoid, (18, 20) 73—ab
Irritability, varying, period of, and refractory period in heart muscles, (70) 350—ab
Ischemic contracture with secondary ulnar neuritis, result of brachial thrombosis, *2095
Ischochymia, (8) 1183—ab
  simulating gallstone disease, (60) 441—ab
Islands of Langerhans, two adenomata of, *1275
Isms and ists, (54) 2188
Isopral, chloral hydrate and bromural, comparative study of dosage and effects of, on cats, *487
Isthmus of Panama, pneumonia on, (10) 1371—ab
Ists and isms, (54) 2188
Itching, causes and treatment, (1) 1466—ab

J

Japan and Korea, (18) 1107
Jaundice, alimentary galactosuria in, (59) 1193
  due to disease of biliary and pancreas passages, (15) 1106
  enlarged spleen, and splenomegalic jaundice, (26) 1736
  epidemic in Talladega, (156) 78
  grave, pathologic anatomy and microbiology of, in secondary syphilis, (43) 1646
  habitual malignant, in new-born infants, (104) 2011—ab
  severe, (48) 174—ab
  significance of, (181) 951, (58) 1034
  splenomegalic, enlarged spleen and jaundice, (26) 1736
  syphilitic, (173) 171
Jaw, cancer of cheek involving, operation in (31) 1730—ab
  lower, dislocation of, device for maintaining reduction, (108) 77
  lower, ivory or rubber substitute for, after exarticulation, (94) 358—ab
  lower, osteitis of, simulating sarcoma, (53) 445
  lower, resection of, osteoplastic substitution after, (103) 2099—ab
  resection of, implantation of piece of rib in pedunculated flap to fill defect after, (89) 1195
Jaws, ankylosis of, (86) 715—ab
  both, temporary turning back of, (139) 359
Jaws, fracture of, (11) 255
  instrument for separating, (4) 317
Jejunostomy, linitis plastica of stomach cured by, (33) 1107
Jejunum and ileum, primary carcinoma of, (49) 797
  carcinoma of, (8) 794
  fistula of, enzymes of human pancreatic and intestinal juice obtained through, (60) 1732
  intussusception of, (117) 1377
Johnson, Samuel, and his court, doctors of, (145) 78
Joint affections caused by infectious diseases, (63) 868—ab
  affections, chronic non-tuberculous, differential diagnosis of, (120) 170
  affections, scarlatinal, (59) 874—ab
  affections, lymph glands in, (162) 86
  bony ankyloses of, transplantation of periosteum in, (56) 1822—ab
  Charcot, (86) 625
  content, absorption of, and structure of synovial membrane, under variable mechanical influences, (67) 1648
  disease, cause of atrophy in, (118) 1553—ab
  disease, tuberculous, treatment by open cut and exposure to sunlight, (31) 354
  metatarsophalangeal, dislocation of, (119) 1473
  metatarsophalangeal, pseudofractures of sesamoid bones of, (67) 798
  sacroiliac, condition of relaxation or strain of, (125) 1734—ab
  tarsometatarsal, surgical intervention in irreducible and old dislocation of, (40) 629
  tuberculosis, Marmorek's serum in, (116) 1553—ab
  tuberculosis, treatment of, (67) 709—ab
Joints and bones, syphilis of, (57) 947
  and bones, tuberculosis of, opsonic therapy in, (32) 256
  and bones, tuberculous affections of, causing hypertrophy in man and dog, (47) 1822
  finger, congenital familial dermatogenic contracture of the, (82) 1825
  finger, pads on, (23) 795
  hemophilic affections of, (53) 1380—ab
  intermittent hydrops of, (28) 167
  non-tuberculous diseases of, (44) 1551—ab
  pathologic non-coaptation of surfaces in, (143) 1013
  resection of, (73) 447—ab
  slight trauma of, clinical and medicolegal significance of, *2211
  stiffening, free bone plastic operations and attempts at transplantation of, (79) 1040—ab
  transplantation of, (133) 85—ab
  traumatic inflammation of, and compensation for industrial accidents, (60) 1380
  tuberculous, diagnosis, prognosis and treatment of, (86) 1819
  whole or half, substitution of, from freshly amputated extremities by free plastic operation, (127) 352

K

Kala-azar, case of, (3) 951
  fatal infectious disease resembling, in natives of tropical America (22) 1816—ab
  fatty liver in, (15) 1467
  in Patna, (41) 445
  intralobular cirrhosis of liver produced by protozoal parasite of, (36) 1038—ab
Kansas City Medical Society, (94) 710—ab
Kant's relations with medicine and pharmacy, (107) 358
Kaolin, (5) 1183
Kaposi's idiopathic multiple hemorrhagic sarcoma, *1205
Kawa root and condurango bark, (79) 1194
Keating-Hart fulguration of vital organs, (69) 875
  lightning treatment of cancer, conditions after, (75) 1739, (97) 2011
  technic, high-frequency apparatus for, (106) 358
Kefir in infant feding, (91) 682—ab
Keloid of scalp, and lobule of ear, recurrent, (86) 1552
Kentucky State Board of Health, (80) 351
Keratitis diffuse interstitial, in acquired syphilis, *202, (113) 1905—ab

Keratitis, interstitial, due to syphilis (17) 2186
  interstitial etiologic factors in, (135) 1037
  parenchymatous and trypanosome toxin (74) 1911
  tuberculous (70) 1042
Keratoconus case of (100) 1077
Keratoplasty, (11) 1106
Keratosis laryngis circumscripta (47) 81
Kern plasma relation theory, (140) 574
Kernig's sign in tetanus (65) 1780
Kidney, acute unilateral hematogenous infections of, (112) 353—ab, (34) 2000—ab
  amyloid healing in, and phenomena of degeneration (1) 2008
  anatomic behavior of suprarenal tissue implanted in, (40) 2005—ab
  and intestine functions of in care of postoperative patients (27) 816
  and liver disease antigens and cellular antibodies in serum in, (94) 1195
  and liver, wandering fixation of, by suturing through magnesium plates (111) 1651
  and ureter, complete extirpation of for tuberculosis in women, *1[illegible]
  and ureter surgery, (35) 2000—ab
  anomalies (91) 1076
  atrophy of with fistula in ureter, (67) 1739—ab
  calculi, diagnosis and treatment of (106) 1905—ab
  calculi fibrinous in (35) 1772
  calculi in (61) 1556, (58) 1612
  calculi in diagnosis and treatment of (140) 353—ab
  calculi nephrolithotomy subsequent nephrectomy on account of hemorrhage (8) 951
  calculi, temporary hemostasis during removal of (110) 2099—ab
  calculi x ray diagnosis of (79) 77 (67) 169—ab
  calculus (59) 2003
  calculus and pyonephrosis in pregnant woman induced labor, nephrectomy (18) 1639
  calculus fallacies in x ray diagnosis of, (19) 1287
  calculus, impacted, symptomatology, diagnosis and treatment of, (65) 258
  calculus, prevention of recurrence, (101) 2195—ab
  changes in, in hemorrhage into pons with high blood pressure, (51) 1468
  colic (94) 2004
  colic, statistical study of, (10) 2232
  contracted and hypertrophy of heart, (79) 1579—ab
  cystic degeneration of, (43) 1033—ab
  decapsulation for nephritis (176) 950 (96) 1740—ab (50) 1909—ab
  decapsulation in eclampsia (189) 87 (25) 261—ab (147) 360
  disease, chromocystoscopy in diagnosis of (9) 2005—ab
  disease, diagnosis of (76) 868
  disease diagnosis and treatment of, (69) 1193—ab
  disease during pregnancy labor and puerperium, (101) 1281—ab
  disease headaches of (65) 1035
  disease lumbago simulating, (67) 1732—ab
  diseases cardiovascular changes in (130) 793
  diseases surgical and appendicitis arterial blood pressure in (65) 356
  excretion of bromids by (61) 350
  excretory efficiency of determination of (93) 256—ab
  experimental studies on in respect to consequences of nephrotomy (79) 1287
  functioning determination of, with cystoscope, (76) 868
  functioning, phloridzin test of, (110) 177—ab
  functioning tests of (178) 87—ab (94) 1649 (107) 1741—ab, (115) 1827—ab (105) 1905
  functioning tests of in children (44) 2191—ab
  fused or horse shoe (137) 1111, (19) 1278
  granular (1) 1038
  heart and aortic insufficiency characteristics of venous pulse in hypertrophy of left heart associated with, (51) 174—ab
Kidney, hemorrhage in fatty capsule of (73) 2047—ab
  hypernephroma of, and tumors of adrenal origin (1) 1160—ab
  idiopathic hemorrhage of, (81) 411—ab
  infarction of cortex of, in pregnancy (31) 1816—ab
  insufficiency importance of early recognition (16) 911
  lesions and pernicious anemia, (42) 255
  lesions in infant, (58 59) 257—ab
  lipoma of, (11) 2000—ab
  malignant hypernephromata of, atypical forms and their chemical characteristics, (110) 412
  movable, (72) 2001—ab
  movable and visceral ptoses, corset for, *1708
  movable shelf operation for, (23) 2000—ab
  movable, surgical side of, (16) 140
  movable, treatment of, (67) 258
  movable when to operate, (163) 950
  of pregnancy, dropsy and normal pregnancy and pathogenesis of eclampsia (52) 1647—ab
  or liver, cancer of, in small children, (97) 1172
  origin of vesical calculi, *885
  papilliferous cysts of, (108) 869
  pelvis anatomy and surgical exploration of, (65) 81
  pelvis and upper segment of ureter, plastic operations on for hydronephrosis (66) 356—ab
  pelvis suppuration of analysis of symptoms in, (15) 1181—ab
  pyuria without apparent lesion of, (17) 438
  recurrent liposarcoma of, (42) 1903—ab
  region, hemorrhagic purpura following contusion of, (52) 1113
  region, traumatic diffusion of urine in, (33) 173—ab
  results of operation on, for tuberculosis and calculus, (143) 353—ab
  retroperitoneal tumor connected with, simulating ascites from tuberculous peritonitis, (2) 1078
  sarcoma of in infancy (55) 76
  secretion of indigo carmin, methylene blue and sodium carminate, (50) 1108—ab
  secretion probable existence of nerves to excite glands for, (67) 1079
  septic conditions of, and tuberculosis diagnosis and prognosis of, (40) 791—ab
  sigmoid case of, (143) 1111
  substance, influence of reduction of on nitrogenous metabolism, (25) 1184—ab
  suprarenal tissue in, experimental transplantation of, (55) 355—ab
  surgery, (21) 1550—ab, (66) 2091—ab
  surgery, practical instruments for, *1327
  theory of chemical correlation as applied to pathology of (22) 914
  tissue experimental reduction of, and changes in that remaining, (24) 2089
  trauma of fractures of pelvis and femur and impaction of pubic arch in bladder, (87) 948—ab
  tuberculosis of (77) 875—ab, (78) 1186 (86) 1194—ab, (46) 1641
  tuberculosis of, stone, and perinephric abscess, (141) 353—ab
  tuberculosis of, experimental, with induced venous hyperemia, (102) 266
  tuberculosis of, experimental with ligated ureter, (114) 359—ab
  vessels abnormal and hydronephrosis (195) 1652
Kidneys and adrenals, relations between (67) 875—ab
  and ureters 140 operations on, (39) 167—ab
  cystic disease of with pyuria and hemorrhages (10) 2005
  daily variations in work of, on constant diet, (133) 634
  dog isolated surviving flushed with placenta juice, (120) 359
  in pernicious anemia, (105) 266
  operations on when catheterization of ureters, is impossible, (117) 800
  surgical diseases of, diagnosis of, (114) 170
  typhoid localized in (115) 2100—ab
Knee dislocation of congenital operative reduction of (89) 1471
  dissecting osteochondritis of, (51) 1909
Knee, traumatic effusion in, treatment of, (100) 2011
  flexed, backward dislocation of foot and extension dressing with, (121) 450
  joint infections treatment of, (127) 1820 (80) 1901
  joint operations (135) 626
  joint osteosarcoma of (9) 622—ab
  joint, relaxed (11) 167—ab
  joint surgical conditions in, (37) 2089
  joint synovitis of, as late manifestation of acquired syphilis, (6) 1901—ab
  strain fractures of, (11) 791
Knife breaking off of point of, while performing iridectomy, (107) 1733
  for iridotomy, (103) 1166
  or anesthetic, intravesical operations for benign tumors without, (95) 2092
Knock knee, correction of lesser tendency to than in bow leg, (100) 77
Knowledge limits of, (99) 1613, (2) 1820—ab
Korea and Japan, (18) 1107
Korsakoff's psychosis (76) 258
Kraurosis vulvae, (9) 716
Kreatin and kreatinin, **excretion** of, in health and disease, (42) 1817—ab
Kurloff's bodies in mononuclears of guinea pig blood and their protozoic nature, (62) 1823

L

Lab and pepsin in fundus and pylorus of human stomach, and relations between action of pepsin and concentration of acid, (99) 1041
Labels plain on germ friends (19) 439
Labial, pelvic **and** abdominal tumor, (7) 2231
Labor and pregnancy complicated by rectal cancer, (42) 1284
  and pregnancy following ventrosuspension of uterus for retrodisplacements (39) 707—ab
  and pregnancy, surgical necessities during (91) 625—ab
  and puerperium fibroids complicating (74) 258
  anesthesia in, (29) 2006
  at term, traumatic rupture of uterus and bladder during *1406
  death of mature fetus in, (92) 77—ab
  dry, uterine action in, (51) 2090
  graduated in pulmonary tuberculosis (68) 1904
  hour glass contraction of uterus during (47) 1279
  in contracted pelvis hebosteotomy vs other procedures in management of (25) 2001—ab
  in occipito posterior positions, (163) 1189
  in private practice (63) 1552
  induced and nephrectomy for pyonephrosis and renal calculi, (18) 1639
  induction of, (116) 1111
  management of to prevent dystocia, (39) 1279—ab
  management of in minor degrees of pelvic contraction indications for abdominal Cesarean section (46) 167—ab
  methods of operation in obstructed (96) 1037—ab
  missed (15) 1377
  morbid dread of as indication for abortion (106) 84
  normal (61) 1552 (66) 1818
  normal, preparation for, (83, 84) 2189—ab
  ovariotomy performed during, (84) 1739 (93) 2094—ab
  pregnancy and puerperium after ventrofixation, (3) 1553—ab
  pregnancy and puerperium kidney disease during, (101) 1281—ab
  premature, and vaginal Cesarean section, for induction of, indications and contra indications, (30) 1278
  scopolamin morphin anesthesia in, (73) 175—ab (11) 1377
  surgical necessities following, (92) 625—ab
  third stage of, treatment, (86) 1875
Laboratories, medical, visit to some abroad, (24) 945
Laboratory *feeding modern* and range of resources it provides (80) 1376—ab
  limitations of, in medical colleges, (23) 256
  method Sydenham method greater than, (21) 1462—ab
Laboratory methods use of, by general practitioner, (120) 534
  methods value of modern, for practitioner, (104) 169—ab
  state, aids of, in diagnosis and treatment (100) 2005
  worker, and specialist, relation of general practitioner to, (54) 257
Laboring classes obstetric service for and relation of midwife to it in Michigan, (165) 171
Labyrinth acute suppuration of, following otitis media; operation, recovery, (90) 2092
  deafness with tone island, (86) 441
  destruction of, for severe vertigo and tinnitus, (31) 1378
  fistula of, caloric nystagmus test in (108) 1383
  reactions of, and their significance in diagnosis of suppurative labyrinthitis, *1754
  non acoustic functions of, (87) 2092
  non suppurative involvement of, in mumps *1961
  suppuration, diagnosis and treatment of, (141) 950
Labyrinthitis, infective, treatment of after 15 years' experience, (136) 950
  suppurative, reactions of labyrinth and their significance in diagnosis of, *1754
Laceration, circular, of vagina, (137) 1117
  complete perineal, secondary repair of, (70) 2091—ab
  isolated, of mesentery after contusion of abdomen (72) 1648
  perineal (143) 1282
Lachrymal obstruction, (35) 629
  sac extirpation of (7) 442, (86) 1904, (121) 1905
  stricture recurrent traumatic erosion of cornea due to (118) 1905
Lactation abnormal, *1839
  and menstruation, (84) 82—ab
  long *495
  long retained capacity for, in non nursing mothers, (85) 82—ab
Lactic acid bacilli and soured milk in forms of chronic ill health, (4) 870
  cultures in nose, throat and ear work (18) 348
  growth of in stomach content, (101) 876
Laity and physician (75) 948
Lameness intermittent (37) 256
Laminectomy explorative, and circumscribed serous meningitis, (77) 2009
Lamp, quartz, white and blue light of (150) 535
Lancet student's number, (1) 1111—ab
Lanosum, frequency of, in man and in dog, (28) 712
Laparotomies after treatment of, *894 (4) 1371
  after treatment of, care of wounds and preliminary treatment, (132) 1820
  allowing patients to get up early after, (119) 1561—ab, (131) 2197
  during pregnancy, (58) 1375
  50 for various conditions, (84) 1466
  100 without death in country practice (49) 1874—ab
  preparation of patients for, (84) 176—ab
  remote pain following, (98) 1187—ab
Laparotomy, care of patients, after, *834 (4) 1271
  adhesions after, (161) 86
  double for ruptured bile duct, (54) 1409
  early exploratory, in diagnosis of diseases of upper abdominal digestive tract (164) 171
  new dressing for (104) 1110
  phlebitis following (103) 1110
  plea for early exploratory in gastric diseases of doubtful nature, (73) 624—ab
  preparatory and after treatment of, *739
  radical for carcinoma of cervix uteri (6) 1554—ab
  35 cases of extrauterine pregnancy without death, dealt with by, (5) 1008
  to hasten recovery after, by allowing patients to leave bed early, (37) 355—ab
Larvae, dipterous, infection of man by (37) 2002
Laryngeal complications in typhoid, (69) 1901
  crises and paresis of abductor of vocal cords, *815
  diphtheria, (127) 270, (114) 1185

Laryngeal disturbances in beriberi, (54) 174
Laryngectomy for carcinoma of larynx, *1072
Laryngismus stridulus, (106) 1826—ab
Laryngitis, chronic, (172) 950
  tuberculous, prognosis and treatment of, (62) 1818—ab
Laryngology, diagnosis and therapy in, without specialist training, (81) 1739
  rhinology and otology, borderline of, *361
Laryngoscopy, (24) 348, (85) 948, (178) 951
  bronchoscopy and esophagoscopy, (26) 1467
  laryngeal growth removed by, (130) 870, (36) 1551
  laryngeal stenosis treated by, (23) 707
Laryngostomy, (131) 78
  and tracheolaryngostomy for stenosis of larynx or trachea, (35) 537, (59) 1039, (50) 1380
Laryngotracheostomy, chronic laryngotracheal stenosis cured by, (126) 450
Larynx, ablation of, late asphyxia after, (79) 1739
  and pregnancy, (92) 716—ab
  angiomyxosarcoma of, with expulsion of large tumor, (108) 1552
  chronic stenosis of, cured by laryngotracheostomy, (126) 450
  congenital diaphragm of, (131) 870
  congenital stridor of, apparently due to enlarged thymus, (135) 1188, (148) 1282
  Crises of: See Laryngeal Crises.
  diphtheritic, stenosis of, intubation for, (79) 1912
  etiology and treatment of singers' nodules in, (92) 1040—ab
  fracture of, (102) 169
  growth in, removed by direct laryngoscopy, (130) 870, (36) 1551
  laryngectomy for carcinoma of, *1072
  method of facilitating operations in, (6) 535—ab
  neoplasms of, in America, (91) 441
  new mechanical devices in treatment of diphtheria of, (82) 625
  or trachea, laryngostomy and tracheolaryngostomy in cure of severe chronic stenosis of, (59) 1039, (50) 1380
  papilloma of, in children, (92) 2092
  paralysis of, with cervical tumors simulating enlarged glands, (22) 1467
  paralysis, recurrent and abductor of, (15) 255, (6) 706, (6) 865—ab, (82) 2092
  stenosis of, treated by laryngoscopy, (23) 707
  stenosis of, treatment including intubation by dorsal method, 621—ab
  trachea and esophagus, direct examination of, (25) 1467, (3) 2005
  tuberculosis of, (80) 259, (27) 623, (31) 866—ab, (121, 157) 1037
  tuberculosis of, surgical emergencies with, (106) 1552
  unrecognized foreign body in, (90) 441
Latah and crime, (10) 710
Laundry employees, frequency of tuberculosis in, (46) 355
Lavage gastric, and test-meal removal, divice for facilitating, *673
  of bladder, apparatus for, (70) 264
  rapid method of, for test meal removal and inflation of stomach, (81) 1280—ab
Law and medical experts, codes of criminal procedure of European countries, (16) 2001—ab
Laws regulating elimination of sugar in diabetes, (135) 634
  vital statistic, of Texas, imperfections and possible remedy, (91) 793
Layman, clinician and pathologist, correlation of, *191
Lead-poisoning, (134) 1111
  cause of, in tinning of metals, (27) 2191—ab
  curiosities of, (126) 442
  diagnosis and prophylaxis of, (139) 267
Lecithin, action of, in exophthalmic goiter, (43) 1464—ab
  general anesthesia and, (122) 1117—ab
Lecithin, how to obtain typhus toxin with, and its immunizing action, (74) 715
  precipitate reactions with, (2) 1729
Leech, gnathobdellid, (Limnatis sp?) from Angola, (51) 1039
Leg: See also Legs
  bones shortened, lengthening, by operation, (42) 256
  congenital pseudarthrosis of, treatment, (116) 84
  fractures, treatment of, (131) 1111
  gangrenous tumor of, in natives of east Africa, (105) 1650
  pressure bandage for, (86) 77
  right, and external genitals, congenital varices of, (3) 1549
  varicose veins of, and varicose ulcer, treatment, (131) 442
Legal indemnity and accident insurance, value of vision in its relation to, (70) 1109
Legislation and infant mortality, in Great Britain, (15) 1189
  corrective, plea for, of medical expert testimony on insanity, (93) 1552
  medicolegal, is it needed in South Carolina? (124) 870
  public health, (90) 710—ab
Legs and arms, intermittent limping in, (114) 1741—ab
  malingering and functional paresis, detection of, *1309
  symmetrical gangrene of, in infectious diseases, (116) 1914
Legumelin, hydrolysis of, from pea, (46) 1731
Leiomyoma, suppurative, of stomach, with hour-glass contraction, (109) 1466
Lemonade, sciatica from, 1081—ab
Lens, adjustable for oblique illumination of eyes, (14) 2000
  crystalline, developmental deformities of, *1051
Lenses especially adapted for estimation of bifocal vision, (131) 1037
Leprosy, (27) 354
  apparently cured with x-rays, (12) 1729
  complement-binding test in, (171) 87
  rat, *1153
  serum diagnosis of, (78) 875
  tubercular, (10) 1549
  x-rays and high-frequency current in, (42) 1112—ab
Leucocidins and hemolysins in anaërobic cultures, (50) 445
Leucocyte count for diagnosis of inflammatory gynecologic affections, (111) 877
  count in abdominal surgery, (5) 1276
  count in diagnosis of abdominal neoplasms, (76) 1904
  ferment, proteolytic, importance of, in pathologic physiology (96) 2099—ab
  formula in primary anemia, (102) 799
  granula, eosinophile, properties of, (108) 1650
  resistance line, Sonder's differential, in diagnosis and prognosis of acute appendicitis, (85) 625—ab
Leucocytes and bacteria, contrast staining of, in research on phagocytosis, (61) 630
  in appendicitis, (29) 1640, (44) 1641
  in diphtheria before and after administration of antitoxin, (74) 1186—ab
  in milk, effect of heating on determination of, (57) 1108
  influence of atoxyl on, (115) 717
  injected, for tuberculous lesion, (87) 77
  neutrophile, Arneth's classification of, and its application in pulmonary tuberculosis, (22) 2006—ab
  of rabbits and guinea-pigs, bactericidal action of extract of, (61) 1039
  polymorphous neutrophile, in typhoid, (105) 800
  with Sudan-staining granules in croupous pneumonia, (98) 956
Leucocytic changes in blood, physiologic importance of, in infectious, disease, (71) 174
Leucocytozoon, genus, avian hæmoprotozoa of, (33) 1190
Leucoma adherens, glaucoma as consequence of, (27) 1283
Leukanemia, (30) 1550—ab, (63) 2093
Leukemia, (80) 792
  acute lymphatic, and chloroma, (31) 262—ab
  acute lymphopenic lymphatic, (29) 866
Leukemia, acute myeloid macrolymphocyte, with peculiar inclusions in cells, (117) 1826
  acute, proteolytic ferments of large lymphocytes in, (24) 1184
  complicated by synovitis in youth, with ichthyosis, (30) 1378
  infantile lymphoid, with nucleated corpuscles, (43) 355
  lymphatic, cirrhosis of liver following, (68) 539—ab
  myelogenous, treated with x-ray, (54) 708—ab
  myeloid, histogenesis of, (142) 86
  myeloid, intramuscular myeloma and hematoma as complication of, (53) 174
  nature and treatment of, (70) 356—ab
  temporary improvement in, under tuberculin, (70) 174—ab
  x-ray in, (81) 77, (95) 1036
Leukoplakia, differential value of, (55) 445—ab, (60) 446—ab
Levator ani and prolapse of genital organs, (59) 81
Levulosuria, alimentary, (109) 177—ab
Liability, employers' for injury or illness, (23) 2190
Libraries, medical, for smaller centers, (100) 793—ab
  public, medical departments of, (146) 78
Lichen planus annularis, *128
  plano-pilaris, in which spinous element predominated, (13) 2235
Life and energy, chemical rays promotors of, mode of action and therapeutic uses, (13) 1278
  duration of, after extensive hemorrhage of brain, *2101
  early, chronologic and anatomic age in, *1197
  everyday, rationalization of, (43) 2187—ab
  expectancy, relation of heredity and environment to, (75) 2091
  insurance examiner, (121) 1111, (78) 2001
  insurance medical examination, (148) 870
  modern, and its effects on types of disease, (109) 442
Ligament, broad, plication of, for uterine retroversion, (28) 2001
  right broad, retroperitoneal cyst involving, (20) 1278
  round, fibromyoma of, (57) 1469—ab
  round, tumors in, (75) 1287—ab
Ligaments, round, intraperitoneal shortening of, (125) 1561—ab
  round, shortening of, and ventrofixation, (23) 2001—ab
Ligation of abdominal aorta, experimental, (101) 799—ab
  of left iliac artery, (33) 790
  of umbilical cord, *917
Ligature, elastic, in cases of anal fistula, advantage of, (29) 1107—ab
  non-absorbable, (40) 74
Light, (117) 1819
  and moving air baths, in general affections, (72) 1470—ab
  artificial, diagnosis under, (68) 1552—ab
  colored, influence of, on course of inflammation, (83) 1559—ab
  concentrated white, lupus showing effect of treatment of, (111) 1111
  in treatment of disease at Boulder Lodge Sanatorium, (9) 255
  ultra-violet, influence of, on lens, (142) 170
Lightning and electricity, injuries from, (78) 715—ab
  treatment of Cancer: See Keating-Hart
Limbs, deformities in, (120) 634
  frequency of necrosis of, after ligation of large trunk vessels, (50) 797—ab
  organs and blood vessels, transplantation of, *1662
  paralyzed, hypodermic use of strychnin in, (61) 1903
Lime and magnesium deposits, solvent action of sulphocyanates on, in system, (6) 621—ab
  content of body, and parathyroids, (88) 1194
  diet to reduce proportions of, in arterial atheroma, (52) 2007
  dust, accidental inhalation of, tuberculosis apparently cured by, (51) 1817
  in origin and treatment of convulsions, (128) 1743—ab
  metabolism, and tendency to spasm in children, (57) 874—ab
  metabolism, influence of phosphorus-cod-liver oil on, (92) 265
Lime workers, tuberculosis in, (14) 2093—ab
Limping, intermittent, and obliterative arteritis, (5) 710
  intermittent, in arms and legs, (114) 1741—ab
Linea alba, hernia in, (31) 945—ab
Linitis plastica of stomach cured by jejunostomy, (33) 1107
Linnaeus, Charles, (144) 78
Lip: See also Lips
  mixed tumors of, (21) 2236
  reading for partially deaf, 822—ab
Lipase, catalytic action of, and acidosis, (49) 947
Lipoidemia, diabetic, (61) 1823—ab
Lipoids, (30) 796, (53) 1113
  are they bactericidal elements of pyocyanase? (121) 1290
  importance of, from medical point of view, (41) 1191
  in hemolysis, (47) 713
  in pyocyanase, (117) 266
Lipolysis, importance of, and fat-splitting properties of syphilitic sera for diagnosis of syphilis, (57) 797
Lipoma, congenital, and tail-like formations in man, (122) 634
  of foot, diffuse painful, (8) 1466
  of kidney, (11) 2000—ab
  retroperitoneal, (62) 81—ab
  retroperitoneal, successfully operated on, (39) 1737
  subperitoneal, incarceration of hernia by, (99) 2011
Lipomatosis, symmetrical, (50) 538—ab
Liposarcoma, recurrent, of kidney, (42) 1903—ab
Lips and cheek, mixed tumors of, (43) 629
  contagious diseases of, bacteriology of, (32) 173
Liquor and drug addictions, neurasthenia and, (174) 171
Litholapaxy as office operation, (40) 1551
Lithopedion, ovarian pregnancy terminating in formation of, (64) 1113
Litter, improvised horse, (120, 122, 127) 950
Liver abscess, (37) 1737
  abscess, amebic, as preventable disease and postoperative sepsis as important lethal factor, (14) 1821—ab
  abscess and dysenteric amebas, (17) 1820
  abscess and hydatid cyst, differential diagnosis between, (132) 1743
  abscess, aspiration and injection of quinin in, (16) 1820
  abscess, diagnosis of, (25) 2186
  abscess of amebic origin in monkey, (45) 1039
  abscess, tropical, (11) 1820
  abscess, tropical, cured by flexible sheathed trocar, (7) 1906
  abscess, tropical, is dysentery sole cause of? (15) 1821—ab
  abscess, tropical or amebic, as preventable disease, (29) 1907—ab
  abscess, tropical, prevention of, (28) 349—ab
  acute yellow atrophy of, (113) 170
  acute yellow atrophy of, with pneumonia, in girl of 10, (100) 266
  affections after intravenous injections of adrenalin in rabbits, (87) 447
  affections, diagnosis of, (85) 876—ab
  affections, importance of urobilinuria in diagnosis of, (106) 633
  affections, syphilitic, protracted fever in, (66) 1193—ab
  atrophy and hyperplasia in consumptives, (101) 1472
  carcinoma, primary, of, (126) 1474
  cells, histology of, (39) 173
  cells, light-colored, (45) 713
  chemistry of, in chloroform necrosis, (41) 1731
  Cirrhosis of: See Cirrhosis of Liver
  colic, statistical study of, (10) 2233
  compensatory and regenerative changes in, (17) 1735
  cough, (131) 1562—ab
  degeneration of, following chloroform narcosis, (35) 1463—ab, (81) 1643
  deprived of portal and systemic blood supplies, influence of stimulation of great splanchnic nerve on disappearance of glycogen from, (55) 1108
  displaced, gaseous abscess in, (41) 355
  epithelioma of, with cirrhosis, (120) 1381—ab

Liver fatty, in kala azar, (15) 1467
  glycogen and structure of liver cell (127) 684, (129) 1043
  glycogen, during starvation, (116) 2100
  in schistosomiasis, (32) 1183
  inflammation of, and lymphangitis and perilymphangitis, (26) 73—ab
  left lobe of entirely torn off, recovery, (85) 1288
  lesion syphilitic, and Malta fever, (115) 1914
  massive collapse of, (1) 2005—ab
  or kidney cancer in small children (97) 1472
  pathologic anatomy of, (90) 2098
  proliferation of connective tissue of Glisson's capsule, (43) 1191
  resection of portion of, (33) 1555—ab
  rupture of, (78) 1552
  ruptured, complications of, (53) 1465
  sarcoma, primary of (144) 268, (107) 809—ab, (32) 1640
  suturing, magnesium plates as aid in (111) 1651 (124) 1914
  symptoms in cardiac disease, (7) 165
  syphilis, (96) 1033
  syphilis diagnosis of, (107) 1905
  structure of lobule of, under influence of splanchnic nerve, (130) 1043
  tuberculous cavities of, tuberculosis of stomach, (142) 1111
Liverpool rat virus, epidemic of enteritis due to, (15) 2190
Localization of foreign bodies by new method (23) 1283
Lochia and vaginal secretion, experiments with mixed infection of, (60) 2192
Locomotor Ataxia See Tabes Dorsalis
Lodging house under public health acts amendment act, 1907, (15) 1111
Lombroso on appalling increase of crime in our country, (23) 1275
London poor, dental needs of, (16) 261
Lumbago simulating kidney disease, (67) 1732—ab
Lumbar puncture in diagnosis and therapeutics, *1566
  in psychiatric diagnosis, (63) 954, (102) 1116
  technic and mishaps, (157) 1475
  technic of, and value of cytodiagnosis in differentiating tuberculous meningitis from epidemic variety, (97) 1819—ab
Lumière process of color photography, employment of, in medicine, (126) 1734
Lunacy, medical examiners in, their responsibility, (57) 1036
Lung abscess chronic, operative treatment of, (83) 1040
  abscess from ascending infection from appendicitis, (16) 1549
  affections following accident, (108) 84—ab
  affections, severe, chronic, unilateral, treated by compression of lung, (85) 265
  affections treated by vaccines controlled by opsonic index, (32) 80
  affection unilateral higher temperature in (107) 1650—ab
  and chest wall, operative mobilization of in treatment of unilateral pulmonary tuberculosis, (99) 1116
  and esophagus fistula between, (66) 1114—ab
  and pleura, reactions of surface of, (6[illegible]) [illegible]
  case unusual (24) 172
  cavity, operative treatment of, (113) 415
  complications postoperative of nature of embolism, (57) 1556—ab
  compression of in severe, chronic, unilateral pulmonary affections by, (85) 265
  disorders and Colorado, (117) 1644
  emphysema of, operative treatment, (98) 85—ab
  empyema and gangrene of complicating typhoid in child, (61) 257
  excision of portion of, (27) 1907
  extirpation of, restoration of balance in regard to space in thorax after, (54) 1909
  induration of apex of, from obstructed nose breathing, differential diagnosis (93) 876
  gunshot wounds of treated by primary suture, (82) 1471—ab
Lung inflation, positive, by peroral intubation, appliances for, (111) 359
  release of, and mobilization of wall of thorax, in unilateral pulmonary tuberculosis, (53) 1909—ab
  right, embolic (thrombotic) atelectasis of middle and lower lobes of, survival, (2) 1466
  rudimentary segments of, in cattle, (99) 1913
  rupture of, fracture of ribs and pneumohemothorax, (34) 1378
  swelling and rigidity of, (142) 1475
  syphilis of, in adults, (147) 268—ab
  tuberculous, influence of artificially induced pneumothorax on, (66) 1558—ab
  ventilation in disease, (17) 1111
Lungs acute affections of, in children, (23) 536
  bronchitic and postpneumonic processes of, obliteration in, (129) 1474
  concrements in, and treatment with silicic acid, (63) 874
  effects of quebrachin on, *1593
  heart and blood vessels, diseases of thoracic viscera including, (97) 1281
  importance of making patient cough during auscultation of, (160) 1037
  inflammation of, fatal, from inhalation of ammonia, (66) 1823
  injury of, in simple fractures of ribs, treatment of complications from, (60) 1556
  murmurs over, (98) 511
  occluding embolism of, (37) 74—ab
  surgery of, artificial intrapulmonary positive pressure in, *803, *807 *808, (63) 2193—ab
  syphilis of, (49) 1192—ab
  tuberculosis of, (150) 78
  tuberculosis of, and pleurisy, (9) 166
  tuberculosis of, corn oil in *89
  tuberculosis of, diagnosis, (76) 165, (96) 176—ab
  tuberculosis of, early symptoms of, (81) 259
  tuberculosis of, medical treatment, (111) 169
  tuberculosis of, opsonic index in, (31) 80
  tuberculosis of, tuberculin in diagnosis of, (26) 348—ab
  tuberculosis of, treatment of, (59) 76
  tuberculosis of, x ray as aid to diagnosis of, (64) 1904—ab
Lupus erythematosus, (9) 1106—ab, (1) 1906
  erythematodes and tuberculids in general, (109) 1116
  inoculation treatment of, (85) 80
  of penis, tuberculin cure of, (40) 2187
  phototherapy of, (54) 2096—ab
  showing effects of treatment of concentrated white light, (111) 1111
  treatment of, (103) 632—ab, (133) 1743—ab, (71) 2097
  tuberculin salve in differentiation and treatment, (61) 174—ab
  vulgaris, treatment of, (20) 1821—ab
  vulgaris, treatment of, by unmodified sun rays, (19) 1821—ab
Lymph current retrograde, from thoracic duct, possibility and importance of, (94) 876
  dog, differential counts of cells in and bearing on hematology, (158) 879
  excess of chlorids in, (67) 350—ab
  glands, in joint affections, (162) 86
  glands, removal of, (12) 711
  glands, sarcoma of, simulating granuloma, (83) 539—ab
  lymphagogue action of, (68) 350—ab
  new diseased, proliferation of, (95) 2098
  node in cervical mucosa, (113) 1651
  nodes, tuberculous cervical, early operation for, (34) 1033
Lymphadenia, aleukemic, of endotheliomatous nature, (57) 713
Lymphagogues, and adrenalin, antagonistic action of, (69) 539—ab
Lymphangioma, symmetrical, of salivary glands, (87) 632
  tuberosum multiplex, (143) 1820
Lymphangitis of liver, and inflammation, (26) 73—ab
Lymphatic apparatus in children, (86) 82
  diseases in tropics, (20) 1906
  organ effect of repeated injections of tuberculin on (11) 1031
  system and thyroid, (123) 250
Lymphatics, constitutional predisposition of, to disease, (107) 177—ab
  sclerosis of, corresponding to arteriosclerosis, (150) 1475—ab
Lymphocytes, large, proteolytic ferments of, in acute leukemia, (24) 1181
Lymphosarcoma, of dogs, transplantable, transfusion of blood in, (91) 869
Lysol, maximum of elimination of cresol in dog after administration of, (119) 634

M

Madagascar plant as remedy for dysentery, (41) 1646
Madelung's deformity, reversed form of, (94) 799
Magnesium deposits and lime, solvent action of sulphocyanates on, in system, (6) 621—ab
  plates as aid in suturing liver, (124) 1914
  plates, fixation of wandering kidney and liver by suturing through, (111) 1651
  sulphate in tetanus (15) 530—ab
  sulphate, intraspinal injections of, in chorea, (53) 2192—ab
  sulphate solution in erysipelas, local use of, (91) 209—ab
Maladies, imaginary, rôle of physician in producing or maintaining, (47) 1374—ab
Malaria, (6) 2233
  and early tuberculosis, differentiation of, (11) 1371
  and meteorologic conditions, (152) 1044
  as cause of purpura hemorrhagica, (61) 2003—ab
  atoxyl in, (116) 266
  campaign against in Calabria, (155) 1475
  cirrhosis of liver in, (10) 791
  endemic at Leipsic, (101) 1826
  fatal pernicious, abundance of parasites in, (5) 442
  hematuria due to, (85) 259
  in Algiers, efforts to eradicate, (48) 445
  in children, *916
  in Greece, (28) 537, (15) 706
  in Greece in 1907, and antimalaria league, (141) 1118
  latent, diagnosis of, (18) 1907—ab
  on Isthmus of Panama, (7) 2000
  pernicious, (63) 1375, (83) 1733—ab
  pernicious, pathogenesis of, (12) 530—ab, (135) 870
  prophylaxis and treatment, (62) 2003
  quartan, in West Africa, (21) 73
  quinin and urea hydrochlorid in diagnosis and treatment of, (25) 1550—ab
  rare nervous symptoms produced by, (19) 1906
  what we should know about it, (50) 791, (54) 1034, (39) 1641—ab
Malformation, rare, embryologic study of, (120) 359
Malformations of arm, (104) 2194
  rare, (68) 2097
Malignant Disease See also Cancer, Carcinoma, and Sarcoma
  cytolytic factor occurring in blood serum in, *915
  in lymphatics of groin, (21) 80
  infection of operative wounds by, *748
Malignant growths, superficial, surgical technic for removal and cure of, (141) 676—ab
Malingering and functional paresis of lower extremities, detection of, *746, *1309
  case of, (36) 629—ab, (30) 1645—ab
  gangrene, (44) 173—ab, (40) 263
Malleolus, amputation above, with osteoplastic operation on calcaneum and tibia, (46) 1822
Malnutrition and society, (15) 1278—ab
Malocclusion, treatment of, (7) 353
Malpractice from physician's standpoint, (138) 1820
  suits protection from, (130) 534—ab
Malta fever and syphilitic liver lesions, (115) 1914
  blood in, (154) 360
  morphology of bacilli of, (142) 1118
  specific sensitizer in, serum in, (63) 1039
Mammæ See Breast
Man and animals, absorption of fat under pathologic conditions in, (114) 1826
Man chorioepithelioma in (88) 876—ab
  frequency of lanosum in, (28) 712
  health of, and plants, chemistry and effects of bituminous coal smoke on, (8) 1815—ab
  in Florida, proliferating cestode larva in, (98) 1110—ab
  infection of, by dipterous larvæ, (37) 2002
  jugular pulse of, (30) 439—ab
  obese, respiratory metabolism of, fasting and after eating, (132) 634
  protozoal diseases in, (56) 1039
  venous pressure in, instrument for determination of (47) 1464
Mania, recent, cause and treatment, (30) 1190—ab
Marasmus, (139) 442
  infantile, (17) 80
Marmorek's serum, (76) 715
  negative experiences with, (106) 1289
Marriage and intermarriage of tuberculous subjects, (129) 1644
  and presumably cured gonorrhea, *1925
  from medical view point, (9) 865
Maryland hospital for insane, (124) 1644
  state sanatorium, (139) 260
Mask, covered with towel in chloroform anesthesia, (183) 87
Masks and gloves advisable in surgery? (31) 1107—ab
Massachusetts State Hospital for inebriates and dipsomaniacs, (82) 2189
Massage, abdominal, apparatus for, (113) 800
  and mobilization in treatment of fractures, (11) 1554—ab
  electric, of abdomen, (46) 1374
  gynecologic, in plastic infiltration and pelvic exudates, (47) 1113
  subdiaphragmatic, resuscitation of heart by, (110) 1187—ab
  vibratory, (129) 85
  vibratory, in eye disease, (134) 1188
Mastitis See also Breast
  puerperal, treatment of, (74) 1649—ab
Mastoid and intracranial complications and chronic recurrent suppurative otitis media, (59) 1732, (88) 2092
  disease, simulation of, by furuncle of external meatus and periauricular abscess, (59) 1280
  disease without classical symptoms, diagnosis of, (117) 949
  increase of specific gravity of pus in acute suppurative otitis media as indication for opening, and errors connected with Hammerschlag's method, (139) 1906
  operation cure by of deficient cerebration from chronic purulent otitis media, (144) 950
  operation, Heath, (96) 2092
  operation, indications for (52) 791, (71) 868—ab, (161) 1189
  operations in children, unusual, (90) 869
  operation, radical, for chronic purulent otitis media, (5) 1461
  operation, radical, septic thrombosis of cavernous sinus following, on seventh day, (40) 1646
  spontaneous exenteration of, from acute otitis media, (173) 950
Mastoid tympano, operation, stapes in relation to, (123) 1734
Mastoiditis, (35) 1551
  acute indications for operative interference in, (73) 868
  acute, non operative, operative and postoperative treatment, (186) 171
  acute, unusual termination of case of, (69) 1280
  apparatus for applying cold in, (136) 85
  can we always know when to operate for? (184) 171
  chronic meato mastoid operation in, *1062
  complicated by atypical and typical cases of sinus *thrombosis,* (140) 959
  complicated by purulent meningitis encephalitis and phlebitis of sigmoid sinus jugular bulb and internal jugular vein, (83) 1552
  double, sigmoid sinus and jugular thrombosis (85) 1552
  in aged, (84) 1552
  primary, (66) 948
  suppurative, thrombosis of lateral sinus and internal jugular vein following caused by acute purulent otitis media, (65) 624

Mastopexy for pendulous breasts, (88) 1381
Masturbators, stomach disturbances in, (77) 955
Materia medica, hygiene and state medicine, (66) 1375
Maternal impressions, (101) 169
  infection, prevention of, (90) 1036
Maternity, effect of overcivilization on, (35) 1902—ab
  technic, modern, evolution of, (40) 1279
Matter and energy in vital processes, (56) 1647—ab
Maxilla and hard palate in primates, (26) 1111
Maxillary Antrum, Maxillary Sinus: See Antrum, Maxillary
Mayo's surgical clinic, (155) 171
Meal, test, extraction of, (143) 626
  test, rapid removal, by lavage and inflation of stomach, (81) 1280—ab
Measles and red light, (54) 873—ab
  and scarlatina, complicated by otitis media, treatment of, (48) 1279—ab
  bacteriologic research on, (77) 1912
  complications and sequels of, (34) 349
  epidemic, atypical features of, in Vienna, (70) 1380
  cutaneous *tuberculin reaction* during, (61) 798—ab
  in utero, (17) 1372—ab
  nephritis as complication and sequel of, (116) 1282
  prophylaxis of, systematic inhalation of hydrogen dioxid in, (99) 176
  tuberculous allergy test during, temporary suspension of, (118) 266
Meat, are yeast extracts justifiable as substitutes for extract of? (9) 1038
  juice, reaction of dry gelatin to moisture and its importance for preservation of, (123) 1473
  poisoning, (65) 951—ab
Meatus: See also Ear
  external furuncle of, and periauricular abscess, simulation of mastoid disease by, (59) 1280
Mechanism of anaphylaxis in regard to serum, (33) 712
Mechanotherapy, scientific, and so-called osteopathy, (56) 440
Mediastinal and bronchial glands, enlarged, physical determination of, (81) 715—ab
  tumors, (102) 352
Mediastino-pericarditis, chronic adhesive, surgical treatment of pericarditis and, (52) 954—ab
Mediastinum, anterior, traumatic abscesses of, (78) 1114—ab
  posterior, spondylitic abscesses in, (74) 1114—ab
  *tumors of, (45) *897*
Medical advance, currents and counter-currents in, (19) 1550—ab, (65) 2091—ab
  affairs, spirit of 1908 in, (41) 349
  aspect of duodenum, (148) 1037
  books ten years old, are they valueless? (71) 1904
  cases in surgical practice, (19) 2006
  college, American, entrance requirements, (64) 1818
  colleges, desirability of instruction in psychotherapy in, and its introduction at Tufts, (2) 1549
  colleges, early, and legal regulation, (11) 348
  colleges, *entrance requirements* in Minnesota, (25) 348
  colleges, French, admission of foreign students to, (71) 82
  colleges, laboratory in, limitations of, (23) 256
  colleges, London, addresses delivered at opening sessions, 1908-09, (25) 1645
  education, fifty years of, (5) 1554
  education, higher, (187) 951
  education in U. S., need of uniform standard, *566
  education, medical license and future of medicine, (82) 1643
  education of public, (70) 1280—ab
  education, standard of, (14) 438, (68) 1109
  ethics, (91) 1186
  ethics, and physician, (97) 1733
  evolution, (134) 870
  examination, life insurance, (148) 870, (78) 2091—ab
  examiners in lunacy; their responsibility, (87) 1036—ab
  expert in court, (54) 1903
  expert, shall average country practitioner testify before our juries as, (92) 1819—ab
Medical expert *testimony*, (61) 868-ab, (53) 1034, (137) 1188, (108) 1644
  experts and law, and codes of criminal procedure in Europe, (16) 2001—ab
  history of early St. Louis, glimpses of, (22) 797
  inspection of schools, (7) 535, (13) 627, (64) 948—ab, (119) 1377, (38) 1379
  institutes, *1330
  journals and publication of society papers, (79) 2189—ab
  jurisprudence and expert testimony relating to eye, ear, nose and throat, (111) 1377
  laws of Iowa and their enforcement, (114) 442
  legislation; suggestions for Arizona Medical Association, (87) 1466
  license, medical education and future of medicine, (82) 1643
  need, (42) 349
  organization, (96) 259—ab, (73) 441, (113) 442, (132) 626, (88) 710—ab
  practice in Canton, China, (65) 1109
  preparations, evils in production of, (90) 1288—ab
  Press and Circular, educational number of, (35) 1284—ab
  problems, mechanico-biologic standpoint in, (10) 1462, (13) 1815
  profession, (113) 1819
  profession and housing problem, (6) 1106
  profession and public, (64) 709—ab, (146) 870, (58) 1185, (4) 1461—ab
  profession, and public health work, (131) 170
  profession losing faith in alcohol, (101) 1377
  profession, needs of, (81) 1732—ab
  profession, responsibility of, for use of nostrums, *2022
  profession, status of, (66) 169
  profession, temperance pioneers in, in last century, (91) 1466
  progress, Brooklyn's contribution to, (107) 949
  progress in Orient, (141) 1820
  publicity, (116) 442
  research, opposition to, *635
  school, first American, (12) 1462—ab
  Schools: See Medical Colleges
  science in Northland during middle ages, (142) 1743
  science, touring lands where it was evolved, (25) 1462
  service, national, proposal for, (100) 1733
  service of United States Marine Corps, (107) 1187
  services, poor-law, public health and, (29) 1112
  society, county, (94) 1904
  society, county, its work, (136) 1282, (72) 1375
  Society of State of New York, lives of officers of, (104) 793, (88) 1110, (51) 1641, (62) 1903
  students, French and German for, (11) 1466
  students, plea for more liberal education for, (27) 1278
  studies, public medicine and hospitals, (24) 1645—ab
  supervision of schools, (64) 948—ab
  terms, use of Greek in, (38) 797, (55) 1286
  texts for midnight sermons, (60) 791
  thoughts, fads, facts and fancies, (120) 1377
  work in Philippines, (55) 1903
  writings, *incorrect phraseology in*, (95) 534
Medicine, ancient Greek, (16) 1815
  and pharmacy, *1832
  and pharmacy, Kant's relations with, (107) 358
  and pragmatism, (113) 626
  and surgery, advances in science and their bearing on, (1) 1553—ab
  and surgery, evil tendencies of, (2) 2088—ab, (18) 2234—ab
  and surgery of *Northwest, organization* and centralization of, (67) 1109—ab
  and surgery, oxygen in, (137) 626—ab
  Arabian and Avicenna, (145) 531
  College of, of University of *Southern California*, inauguration of 24th annual session of, (114) 1819
  faucet vacuum pump in, (74) 1470
  future of, (29) 531, (82) 1643
  history of, in province of Quebec, from 1535 to 1838, (11) 530
  human element in, (21) 1901—ab
  ideal in, (74) 868—ab
  ideas and ideals in, (72) 1186—ab
  in Canada, (106) 1644
Medicine, inherent spirit of, (158) 1037
  just perspective in, (1) 1734—ab
  master-minds in—John Hunter, great man of science and surgeon, (103) 442
  modern, (2) 794—ab
  of future, (93) 77
  practice of, (123) 1377
  practice of, regulation of, by state, (74) 2091—ab
  practice of, studies on circulation and their importance to, *473
  preventive, (41) 531, (68) 714, (74) 1110—ab
  preventive, *in home and school*, (79) 948
  public, *hospitals*, and medical studies, (21) 1615—ab
  rational and those who oppose its teachings, (121) 1644
  sanctity of, (1) 317—ab
  scientific, misfortunes of, (84) 1625
  social, special training for, (109) 1913
  sociologic, (63) 2091—ab
  tropical, Huxley lectures on, (33) 1646—ab
  tropical, teaching of, (102) 1733
  unreasonable traditions of, (18) 707—ab
  use of Greek in, (38) 797, (55) 1286
  what documentary evidence should be accepted as evidence of qualification *to practice*, (67) 2188—ab
Medicines and foods, proprietary, state regulation of, (13) 1111
Medicolegal relations, of intestinal tears following unoperated appendiceal abscesses, (74) 624—ab
Mediotarsal enucleation, osteoplastic, (120) 717
Medulla and spinal cord, tuberculosis of, course of cerebello-olivary fibers in, (43) 445
  syringomyelia with symptoms, referred to, (102) 1041
Megacolon, (53) 355—ab
  in children, (85) 265—ab
Melancholia in children, (84) 1733—ab
  true and presenile, at menopause, (22) 1377
  with delusions of negation, (138) 170
Melanedermia, physiologic, of mucosæ, (59) 1286
Melanoma, chemical study of, (117) 359
  of external genitals, (40) 630
  of Vater's diverticulum and lower portion of common bile duct causing complete obstruction, (152) 870
Melanoscarcoma of bile duct, complete obstruction caused by, (129) 78
  of orbit, (10) 530—ab
  primary epibulbar, (106) 1733
Melbourne milk supply, (41) 81
Melena, and paratyphoid in newborn, (62) 264—ab
Melitensis septicemia, (1) 171, (4) 353
Membrane, Descemet's, traumatic rupture and defects of, (35) 349
  persistent pupillary, rare case of, (130) 1282
  tympanic, herpes of, due to zosteroid affection of petrosal ganglion, (35) 1108
Membranes, retained fetal, forceps removal of, (63) 1647
Men, technic for *removal* of high rectal cancer in, (91) 1471
Mendel's law and atavism, new light on phenomena of, (90) 876
Ménière's disease, myth and *mystery* of, (9) 1729
Meningeal tumor compressing cerebellum, (137) 170
Meningism and meningoencephalitis in croupous pneumonia, (105) 1473—ab
Meningitis-cerebrospinal (100) 1116, (150) 1188, (42) 1468, (29) 1730, (10) 1906
  acute, other than tuberculous, *etiology*, pathology symptomatology and diagnosis, (78) 1643
  bacteriology of, (3) 171—ab, (28) 1038
  epidemic, (101) 83, (81) 264, (96) 1819—ab
  epidemic, complications and serum treatment of, (70) 1193—ab
  epidemic, cultivation of meningococcus from *eye conditions* complicating, (101) 1466
  epidemic, hypopion iritis associated with, (129) 1188
  epidemic, in Motherwell in 1907, (4) 1038
  obstructive hydrocephalus following, with intraventricular injection of *antimeningitis* serum (159) 870
  serotherapy of, abnormal reactions to horse serum in (26) 2191—ab
Meningitis-cerebrospinal, serotherapy of, *15, *21, (76) 175, (18) 255, *269, (159) 870, (29) 1184—ab, (70) 1193—ab, *1315, *1318, (8) (1371—ab, (80) 1375, (17) 1639, (79) 1643, (27) 1645—ab, (16) 1729, (5) 1815, (98, 100) 1819—ab, (11) 19007—ab, (90) 1913—ab, (39) 2002, (37) 2187, (117) 2196
  serotherapy of, and prognosis under various forms of therapy (8) 1371—ab
  suppurative, in infants simulating tetany, (31) 173
  with unusual symptoms, *1231
Meningitis and typhoid, research on, (98) 716
  basic occlusive, (87) 1825—ab
  blood in, (101) 177—ab
  circumscribed serous and exploratory laminectomy, (77) 2009
  circumscribed serous spinal, idiopathic form of, (69) 1558—ab
  constriction hyperemia in, (143) 86-ab
  diagnosis and treatment, (101) 534
  epidemic, (80) 1643
  epidemic, complement-binding test applied to, (93) 2010
  meningococcus, multiple encephalitis with, (84) 1115
  meningococcus, serotherapy of, (99) 1819—ab
  pneumococcus, as direct result of severe trauma of skull five years before, (101) 1826
  purulent, encephalitis and phlebitis of sigmoid sinus, jugular bulb and internal jugular vein, mastoiditis complicated by, (83) 1552
  serotherapy of, (83) 1739, (101) 1819—ab
  serum, (76) 175
  serum, intraventricular injections of, obstructive hydrocephalus following *cerebrospinal meningitis* with, (159) 870
  serum, tests for, (76) 798
  spinal serous, (51) 1192—ab
  suppurative, in puerperium, (56) 446—ab
  tuberculous, (150) 1037, (77) 1643
  tuberculous, cytodiagnosis in differentiation of, from epidemic variety, (97) 1819—ab
Meningocele, psammoma-like *growths* in wall of, (102) 1913
Meningococci, cultivation of, (73) 631—ab
Meningococcus cultivated from eye conditions complicating epidemic cerebrospinal meningitis, (101) 1466
  hydrocephalus caused by, (101) 1819—ab
  in nose, identification of, (51) 2007
  sepsis, (109) 1561—ab
  septicemia with acute fibrinopurulent pericarditis and hypopion iritis caused by, (44) 1903—ab
  two clinical types of, and their bacteriologic differentiation, (32) 1467
Meningoencephalitis and meningism in croupous pneumonia, (105) 1473—ab
Meningoencephalomyelitis, *myoclonia* in, (48) 538—ab
Menopause, *1507
  and heart, (100) 1741—ab
  melancholia, true and presenile, at, (22) 1377
  premature, optic atrophy following, with probable tumor of pituitary body, (179) 171
Menorrhagia, (47) 75—ab
Menstrual cycle, histologic changes in endometrium incidental to, (39) 256
Menstruation, age at first, and development of pelvis, (54) 2192—ab
  and conception, (79) 1470
  and lactation, (84) 82—ab
  and unilateral ovarian tumors, (100) 1472
  conception and duration of pregnancy, computation of, (105) 1011
  disturbances of, (33) 872—ab
  nasal, *1077
  relation of pyelitis to, (81) 875—ab
  vicarious, *1077
Mental: See also Mind
  affections *and serum* diagnosis of syphilis, (47) 1285—ab
  and nervous diseases, hydrotherapy in, (148) 1906
  and nervous diseases in general practice, (175) 171
  and nervous disorders *from alcohol*, (51) 349—ab, (93) 1466
  breakdown, how to prevent, and how to secure mental health, (29) 952
  contagion, (87) 625—ab
  cripples, (13) 2093
  defectives, high-grade, (1) 864

Mental defectives in prison, (16) 354—ab
  defectives in prison, (16) 354—ab
  deficiency, borderline cases of, (3) 861
  development of school children, effects of faulty eye, ear, nose and throat conditions on, (88) 1466
  diseases, and alcohol, (25) 172
  diseases, differential diagnosis and treatment, (129) 1037
  diseases from sociologic viewpoint, (21) 2006—ab
  disorder, special provision for management of certain forms of, (13) 2186—ab
  disturbances, in women, (17) 1190
  etiology, physical basis of, (8) 865
  healing systems and methods, relation of physician to, (96) 710—ab
  health, how to secure, and how to prevent mental breakdown, (20) 932
  out-patient department, (20) 1377
  patients, examination and certification of, (7) 1820
  processes, insane, sane prototypes of (41) 2187—ab
  state in chorea, (72) 533—ab
  states and oxygen in cause and cure of disease, (18) 1278
Menthol poisoning, (104) 716
Mercury, (96) 1643
  and chalk, large doses of, in smallpox, (38) 2191—ab
  bichlorid in acute articular rheumatism, intravenous injection of, (130) 1044
  bichlorid, pericarditis in poisoning from, (65) 1039—ab
  in late syphilis, *1954
  in tabes, (128) 1290—ab
  in tuberculosis, (48) 75—ab, (15) 166—ab, (7) 944—ab, (43) 1108—ab, *1854, (88) 2187—ab
  inhalation of, in syphilis, (114) 1289—ab
  intravenous injection of, *2155
  local injections of, in syphilids, (28) 172—ab
  salicylate intramural injections of, in syphilis, (118) 793—ab
Mesenteric glands, primary tuberculosis of, (32) 866—ab
Mesentery, chyle cysts of, (30) 1731—ab
  isolated laceration of, after contusion of abdomen, (72) 1648
  jejunal, dermoid cyst of, (14) 1377
  of small intestine, dermoid cyst removed from, (105) 2194
  surgical treatment of tuberculous glands in, (34) 1468—ab
Mesophotography and application to delicate unfixed embryos, (24) 1111
Metabolism disturbances of, balneotherapy of heart and vascular affections from, (85) 176
  ferment reversions in, (25) 1816
  gout a disease of, its treatment, (76) 1289
  in children, why greater than in adults, (123) 85—ab
  in diabetes, (90) 625
  in typhoid, *974
  inborn errors of, (1) 442—ab, (1) 535—ab, (2) 626—ab, (2) 710—ab
  intermediary, influence of complete thyroidectomy and thyroid feeding on, (48) 1731—ab
  nitrogenous, influence of reduction of kidney substance on, (25) 1184—ab
  of water and salt, pathology of, (84) 1559—ab
  perverted, toxemia from standpoint of, (43) 167, (18) 1184—ab
  proteid, (75) 76
  protein, and diminished muscular activity, (36) 1278—ab
  purin, in gout, (75) 868—ab
  purin, physiology of, (24) 1038
  research, home-made apparatus for collecting infant's urine and stools for, (64) 1469
  respiratory, influence of castration on, (98) 2194
  respiratory, of consumptive during night sweats, (111) 1826
  respiratory, of obese man fasting and after eating, (132) 634
  salt and ash-free diet, *727
  salt, in experimental nephritis, (146) 1475
  uric acid, during subcutaneous oxygen treatment of neuritis and neuralgia, (149) 1044—ab
Metallic and alcoholic poisoning causing neuroses, (186) 951
  tractors, Perkin's, (122) 170
Metals, cause of lead poisoning in tinning of, (27) 2191—ab
Metatarsus, dislocation of, in Lisfranc's joint, (51) 1822
  indirect fractures of, (116) 1289—ab
Meteorology, configuration, and general health of midland counties of England, (35) 444
Methylene blue, sodium carminate and indigo-carmin, kidney secretion of, (50) 1108—ab
Metol dermatitis, (16) 1106—ab
Metreurynter for placenta prævia, (101) 632—ab
Metric system, difficulties and dangers of, (98) 1037—ab
Metritis, chronic, hemorrhage in, (77) 82—ab
  chronic infectious, (161) 950
  chronic, wedge resection of body of uterus for, (50) 630
Metrorrhagia, (47) 75—ab
Mica plates for research on red corpuscles, (122) 1474—ab
Mice: See also Mouse
  carcinoma in, (18) 2006
  carcinoma in, action of two sera on, (6) 1282
Michel's clamps, repair of superficial perineal lacerations with, (96) 1110
Michigan, obstetric service for laboring classes and relation of midwife to, (165) 171
Microbiology and pathologic anatomy of grave jaundice in secondary syphilis, (43) 1646
Micro-organism causing epidemic among cats, (61) 1469
Micro-organisms, allied forms of, and tubercle bacilli, (54) 1552
Microphthalmia, (122) 1905
Microscope and test tube in diagnosis, (57) 850
Microsporon affection of scalp, (49) 953
  caninum or lanosum, frequency of, in man and in dogs, (28) 712
  epidemic, (55) 174, (105) 358
Microtome, compact ether-freezing, (126) 1553
Microtomy, improved technic for, (116) 800
Middle classes, home hospitals for, (12) 261
Midwife in Michigan and obstetric service for laboring classes, (165) 171
Midwifery statistics, (28) 2006
Migraine, (62) 1035
  an occupation neurosis, *200
  and epilepsy, thyroid extract in, (78) 625—ab
  epilepsy, *480
Military medical service of Knights of Malta in Austro-Hungarian army, (128) 950
  service and national physique, (8) 1111
Milk and infectious diseases, *1491
  bacterial content of, methods for determining, (53) 2003—ab
  borne outbreak of typhoid, unusually extensive, (2) 255—ab
  bottled, distribution of bacteria in, and its application to infant feeding, (146) 1282
  breast, analysis and modification of, (78) 533
  breast, artificially drawn, feeding infants with, (111) 449
  breast, determination in, of substances indicating intestinal putrefaction, (49) 174
  breast, essential ingredients of, (94) 83
  breast, importance of different proportions of fat in, with respect to thriving of infant, (56) 874
  breast, increase of proportion of fat in, during ingestion of fat, (55) 873—ab
  breast, problem of, *1212
  breast, quantity and quality of, during first two weeks of puerperium, *1209
  certified, (108) 1377
  certified, and bovine tuberculosis, (143) 1906
  certified, in Cincinnati, (86) 351
  clean, certified, economic and medical relations, (87) 351
  clean or unclean? (55) 1375—ab
  commercial, and dairy products at Leipsic, proportion of tubercle bacilli in, (131) 1117
  cooler, practical, *1328
  cow's containing tubercle bacilli, danger in using, (2) 2233—ab
  cow's enzyme reactions of and their importance for hygienic control of milk supply, (116) 541—ab
  diet, in obesity, (105) 716, (92) 876—ab
  diet, Karrell's, and underfeeding in failing heart compensation, (89) 876—ab
  effect of heating on determination of leucocytes in, (57) 1108
  epidemic at Christiania, (137) 1743
  fluid diet without, in typhoid, (18, 19, 20) 73—ab
Milk from cows with udder affections, (136) 1743—ab
  human and cow's, available alkali in ash of, and infant nutrition, (23) 1033—ab
  human, hemolytic complement in, (144) 86
  human, proteolytic enzyme of, (49) 1903
  infected, localized outbreak of scarlet fever presumably due to, (11) 1189
  infection, chronic, (148) 1731
  percentages, calculation of, (60) 257
  problem, (18) 80, (18) 172
  problem encouragements in, (97) 1187—ab
  proteins, (52) 1732—ab
  raw and pasteurized, chemical evidence of peptonization in, (50) 1731—ab
  refrigerator, inexpensive home-made, *317
  sanitary, (43) 440
  sanitary, conditions influencing production of, (69) 1375
  skimmed, as temporary food for infants, (71) 709—ab
  sour, and selected lactic acid bacilli in chronic ill health, (4) 870
  sour, practical value of, (53) 1642—ab
  sterilized and pasteurized, reliability of, as infant food, (142) 1906
  syphilitic women, antibodies in, 1469—ab
  supply, health department methods for supervision of, (73) 710
  supply of Melbourne, (44) 81
  supply, sanitary, necessity of, (70) 1375
  top, gospel of, *1216
  tuberculous infection through, (85) 793
  typhoid due to, (6) 2038—ab
  vegetable diet in pernicious anemia, (138) 1744—ab
Milker's felon, (117) 717—ab
Milroy's disease, (83) 262—ab
Mind: See also Mental
  abnormal, and trauma, (73) 76
  and nervous system and diseases of, and pelvic diseases, (97) 1904—ab
  bacillus of, and its decrees, (20) 439
  defect or disease of, medicolegal consideration in, (83) 259
Mines, coal, dosage of gases in, (49) 2007
  sanitation of, (5) 1466
Minnesota, management of smallpox in, (18, 20) 2001—ab, *2151
  tuberculosis in, statistics, (136) 793
Miotics versus iridectomy in chronic glaucoma, *1389
Miracles at tomb of R. Francois de Paris, (14) 255—ab
Miscarriage and abortion, etiology and symptomatology of, (83) 351
  and abortion, prophylaxis and medical treatment of, (84) 351
  and abortion, surgical treatment of, (85) 351
Mississippi Valley and tropical diseases, (67) 2091—ab
Mitral incompetency, murmur in, mechanism of propagation to apex of, (41) 355
  insufficiency, various localizations of murmur from, (126) 717
  stenosis, (62) 798
  stenosis and dwarf growth, (52) 873—ab
  stenosis, congenital, pregnancy and childbirth with, (30) 712—ab
Mobilization and massage, treatment of fractures by, (11) 1554—ab
Models, wax, (83) 77
Mold fungi, production of toxin by, (164) 87
Mole, hydatidiform, (64) 81—ab, (106) 1466
Molluscum-contagiosum, etiology of, (111) 266
  of genitals in husband and wife and of face and neck of their infant boy, (46) 1279
Mongolian spots and rickets in colored children of Jamaica, (42) 867—ab
Monkeys, digestive tract of, fate of bacillus bulgaricus in, (54) 1732—ab
  diffusely disseminated cutaneous syphilids in, after inoculation in testicles, (58) 1823
  treponema pertenuis of yaws and *production of disease in,* (123) 950—ab, (108) 1187—ab
Monomania, insanity or partial insanity, plea of, (37) 873
Monster with rudiments of heart and head, (108) 266
Monstrosity, double-headed, *1073
Montpelier, school of, (72) 1732
Morbidity and mortality, reduction of, of child-bearing women, if maternity hospitals were more in favor, (22) 623—ab
  returns, international classification applied to, (12) 2089—ab
Moro's technic, percutaneous tuberculin reaction by, (108) 717
Morphin derivatives, value of, in ocular therapeutics, (18) 531, (139) 1037—ab, (71) 1643—ab
  habit, gelseminin in, (48) 349
  habit, treatment of, in general practice, (126) 1820
  in pain, (74) 1280
  influence of, on resistance of red blood corpuscles, (100) 799
  poisoning, industrial, (88) 2010—ab
Morphinism, (100) 534
  and opium habit, (1) 951
  chronic, and its treatment, (4) 1282—ab
  narcotic method of treating, (17) 1032—ab
Morphology of spirochetes of syphilis and yaws, (21) 944
  of parasite and spirochætosis in southern Arabia, (35) 2191
Mortality and disease from alcohol, (4) 349
  and morbidity, reduction of, of child-bearing women, if maternity hospitals were more in favor, (22) 623—ab
  from tuberculosis in Berlin, causes of decline of, (40) 712—ab
  immediate, of abdominal hysterectomy for cancer of cervix, (11) 2190
  Infant,: See Infant Mortality
  rate in autopsies, 566—ab
  rate from tuberculosis, at what age periods and in what measure has reduction in, manifested itself in New York City during past forty years? (13) 2088
Mosquito and yellow fever, *2199
Motes and granula, (48) 1192
Mother and child, recovery of, with Cesarean Section in eclampsia, (61) 947
  recently delivered, sudden death that may come to, (115) 1733
Mothers and infants, institutions for caring for, (77) 1558
  of infants with inherited syphilis, serum diagnosis in, (84) 876—ab
Motor car and telephone, vs. axis traction forceps, (34) 1555—ab
  function, cerebral inhibition and, *183
Moulages, (83) 77
Mouse cancer, transplantable, resistance of, to freezing with liquid air, (55) 2003—ab
  cancers, spirochetes in, (93) 176
  tumors, influence of scarlet oil on, (120) 2197—ab
Mouth and tongue, cancer, (30) 1730—ab
  breathing causes and evils of, (80) 1819—ab
  breathing, snoring, etc., (119) 793—ab
  cancer of, in India, (14) 79—ab
  care of, during infancy and childhood, (12) 2186—ab
  inefficient care of, alveolitis from, *2113
  nose and pharynx surgery, general anesthesia in, (9) 438—ab
  pigmentations of mucous membrane of, *1685
  rare ulcerative and necrotic processes in, (87) 2098—ab
  tuberculosis of mucous membrane of, (51) 1552
  use of serum by, (30) 1038
Mucous membrane, gastric, direct inspection of, (18) 795—ab
  membrane inflammatory proliferation of, in Fallopian tube, (119) 1742
  membrane of mouth, tuberculosis of, (51) 1551
  membrane of uterus and vagina, capacity of, for absorption, (57) 2193—ab
Mucus, microchemical test for, in stools, (100) 2099—ab
  membrane, uterovaginal, study of at different ages, (55) 2007
  membranes, exposed, and epithelial tumors of skin, (86) 710
  membranes, physiologic melanodermia of, (59) 1286
Mucus, intestinal, paroxysmal excessive secretion of, (42) 953—ab
Muffet, T., 1553-1604, (75) 1732—ab
Mumps: See Parotitis
Murmur, exocardial, often misinterpreted, (7) 1644—ab
  in mitral incomptency, mechanism of propagation to apex of, (41) 355
  respiratory, and physics of physical signs, *399
  various localizations of, for mitral insufficiency, (126) 717

- Murmur, cardiac, unusual, (14) 530
  - in pulmonary area, (98) 541
- Muscle, behavior of, after compression,, (63) 350—ab
  - interposition of flap of, resection of hip joint with, (109) 1826
  - movements, single, coordination of, in central nervous system, *89
- Muscles, action of curara and physostigmin on, (44) 1817
  - and glands, resuscitation of, after temporary anemia, (64) 350—ab
  - congenital defects of, infantile disintegration of nuclei and progressive infantile dystrophy of muscles, relations between, (83) 1114—ab
  - dystrophy of, are there latent or rudimentary types of? (126) 178
  - hydatid disease of, (87) 1194
  - ischemic contracture of, and plaster cast, (100) 2195—ab
  - of hip, physiologic action of, (45) 1555
  - paralysis of, and retching, relations between, and apomorphin poisoning, (83) 1381—ab
  - pathologic physiology of, (69) 446
  - primary sarcoma in, (121) 1914
  - smooth, contraction of, application of McDougall's theory of, (38) 1278—ab
  - transplantation of, (87) 358
- Muscular dystrophy, existence of rudimentary or abortive forms of and their treatment, (90) 358
  - rigidity, congenital, and dislocation of hip joint, (80) 356—ab
  - symptoms due to intense heat, *1969
- Myalgia, (10) 172
  - lumbalis, (28) 790
- Myasthenia-gravis, pseudoparalytic, (44) 1191—ab
  - pseudoparalytic, with negative pathologic findings, (89) 2004—ab
- Mycosis, benign tonsillar, (126) 634
  - fungoides, (18) 1821—ab
- Mydriasis, substances in urine that induce, (87) 1559
- Myelitis, severe, with gangrenous decubitus, (83) 447
- Myeloma, intramuscular, and hematoma complicating myeloid leukema, (53) 174
- Myelomalacia, traumatic cervical, *664
- Myiasis, (33) 1907
  - intestinal, (87) 1819
- Myocarditis, chronic, (88) 77—ab
- Myocardium, symptoms attributed to, often of peripheral origin, (28) 1550
- Myoclonia in meningo-encephalomyelitis, (48) 538—ab
- Myogenic theory, and cardiac arrhythmia, (13) 1467—ab
- Myoma and uterine musculature, chemical composition of (81), 2098
  - capsule, (65) 538
  - of rectum, (79) 82
  - of uterus, dangers and treatment of, (1) 78, (2) 171, (19) 261—ab
- Myomata, necrosis of, during pregnancy, (78) 1470
- Myopia in pure-blooded negro, unusual degree of, (104) 1466
  - incipient, atropin in, (88) 715
  - prophylaxis of, (102) 876
  - refractive, (122) 1734
- Myositis and neuritis, ischemic, (38) 1467
  - ossificans progressive, (150) 1734
- Myotonia, congenital study of, by sufferer from, (57) 2091—ab
- Myxedema, (42) 1185
  - blood changes in, (124) 359
  - hypothyroidea, incomplete, (110) 1644
- Myxoma chorii, (106) 1466
  - of pelvis, true and false, (110) 1282—ab
- Myxomas, especially fibroelastomyxoma of heart, (103) 1913—ab
- Myxosarcoma of round ligament, (44) 75

N

- Nagana, experimental, arsenic in, (74) 447—ab
  - experimental, atoxyl and thioglycolic acid in, (66) 1470
  - experimental, successful treatment of, (90) 1115
- Nail affections, x-ray for, (112) 84
- Nasopharyngeal catarrh in children, treatment of, (127) 1043
  - origin of chorea, (45) 2192—ab
- Nasopharynx, adenoids in, (158) 1734
  - and nose, influence of widening of palatal arch on, (117) 1466
  - and sphenoid region, carcinoma of, radium in, (89) 441
  - treatment of hemorrhage after operations on, (124) 534
- National department of public health, *1856
  - efficiency and physical deterioration, relation of alcohol to, (44) 349
  - Formulary and U. S. Pharmacopeia, need of more intimate knowledge of, among physicians, *2018
  - Formulary and U. S. P. preparations, (107) 352
  - Formulary and U. S. P. preparations vs. proprietaries, (46) 1185
  - Formulary, and U. S. pharmacopeia, relation of physician and pharmacist to, (106) 169
- Navy and Army, medical departments of, and relation of, for war, to American National Red Cross, (106) 1187
- Neck and face, spasmodic movements of, elements of diagnosis between, (20) 1730
  - branchiogenic multilocular cysts of, (56) 1380
  - deformities of, (128) 1734
  - extirpation of tuberculous glands of, explanation of exophthalmos, tachycardia and tremor following, (27) 2186
  - injury of nerves during extirpation of glands in, (59) 713—ab
  - fracture and dislocation of, at sixth cervical vertebra in man of 60, recovery, (10) 1815
  - multilocular cyst of, in infant, (42) 445
  - neoplasms of, operation for (23) 531
  - tuberculous glands in, embolic tuberculous pneumonia following massage of, (90) 1559
- Necresis, chloroform, of liver, (35) 1463—ab
  - of fat tissue, subcutaneous, (140) 1743
  - of limbs, frequency of, after ligation of large trunk vessels, (50) 797—ab
  - of myomata during pregnancy, (78) 1470
  - phosphorus, treatment of, (54) 355—ab
  - progressive, of costal cartilages, (44) 2095—ab
  - subcutaneous, of fat tissue, (130) 1474—ab
- Needles, extraction of, (120) 1042—ab
- Negro consumptives, (84) 533—ab, (121) 793
  - outlook of, for health, (85) 533—ab
  - pure-blooded, unusual degree of myopia in, (104) 146
- Neoplasms: See also Tumors
  - abdominal, differential leucocytic estimation in diagnosis of, (76) 1904
  - active, non-relationship of, to prognosis in malignant disease, *910
  - malignant, epidermal fibrils in classification of, (101) 869
  - melanotic, (142) 1734
  - new, of animals, appearance of heteroplastic tumors in transplantations of, (5) 865
  - new intrathoracic, (1) 870—ab
  - of neck, operation for, (23) 531
- Nephrectomy and nephrotomy, indications for, (18) 1554
  - case requiring immediate, *1780
  - for pyonephrosis and renal calculi, (18) 1639
  - subsequent, on account of hemorrhage, after nephrolithotomy for renal calculi, (8) 951
  - vaginoureterostomy after, for pyonephrosis due to sigmate constriction of ureter, (16) 1278
- Nephritis, acute, (103) 352
  - acute, in childhood, (41) 867—ab
  - acute, in scarlet fever treated by spartein sulphate, (28) 707
  - acute parenchymatous, (72) 948
  - acute syphilitic, (17) 166
  - as complication and sequel of measles, (116) 1282
  - chronic, blood pressure and influence of food in, (104) 84
  - chronic, blood pressure and its measurement in, (68) 1911—ab
  - chronic and suprarenal lesions, (23) 2089—ab
  - chronic, etiology of, (27) 348—ab
  - chronic, experimental, (96) 869
  - chronic interstitial, (170) 1189
  - chronic interstitial, arterial changes in, (65) 1732
- Nephritis, chronic interstitial, and recurring paralysis, (169) 171
  - chronic interstitial, etiology and pathology of, including urinary findings, (66) 1732
  - chronic, subtemporal decompression in, for neuroretinal lesion, with uremia, (31) 1902—ab
  - chronic, serotherapy of, (59) 1823—ab
  - chronic, treatment, (69) 1642—ab
  - congenital, (6) 2185—ab
  - decapsulation of kidneys for, (176) 950, (96) 1740—ab, (56) 1909—ab
  - experimental, glomerular lesion of, (3) 255
  - experimental, nephrotoxic substances in serum of animals with, (45) 1903—ab
  - experimental, salt metabolism in, (146) 1475
  - hemorrhagic, following scarlet fever, *1410
  - in infancy, (37) 1467
  - interstitial, (20) 348
  - of pregnancy, suparenal capsules in, (51) 81—ab
  - operative treatment of, (50) 1374—ab
  - sclerous atrophic, of tuberculous origin, (57) 1286—ab
  - secondary, in transplacental typhoid infection, (49) 1817—ab
  - serotherapy of, (57) 1738—ab, (59) 1823—ab
- Nephrolithiasis, (112) 260—ab
  - symptomatology of, (56) 1286—ab
- Nephrolithotomy for renal calculi: subsequent nephrectomy on account of hemorrhage, (8) 951
- Nephropexy, new technic for, (59) 441—ab, *54
- Nephrotomy, experimental studies on human kidney of consequences of, (79) 1287
- Nephrotoxic substances, presence of, in serum of animals with experimental nephritis, (45) 1903—ab
- Nephroureterectomy, complete, for renal tuberculosis in women, *459
- Nerve, abducent, paralysis of, with otitis media, (123) 1282
  - anastomosis in infantile paralysis, (16) 348—ab
  - area, mental, and grayness of hair, (14) 443
  - atrophy, optic, infrequent type of, *290
  - auditory, division of, for painful tinnitus, (26) 1645—ab
  - cells, Edinger's theory of using-up of, (123) 1914
  - circumflex, inflammation of, (17) 255
  - condition, velocity of, temperature coefficient of, (73) 350—ab
  - disease, organic, and heart affections, (39) 1468
  - endings, action of curara and physostigmin on, (44) 1817
  - facial, surgery of, (134) 950
  - facio-hypoglossal, anastomosis of, *455
  - great splanchnic, experiments on nature of glycogenolytic fibers in, (54) 1108
  - great splanchnic, influence of, stimulation of, on disappearance of glycogen from liver, (55) 1108
  - injuries of upper extremity, diagnosis and electrical treatment of, (22) 1283
  - median, immediate results in implantation of, (98) 2092
  - nasal, resection of, intractable hay fever and paroxysmal coryza cured by, (4) 171—ab
  - nucleus icterus of infants, (95) 799—ab
  - optic, changes in multiple sclerosis, *120
  - optic, differential diagnosis of affections of, *483
  - optic, importance of disturbances in, in incipient multiple sclerosis, (70) 1470—ab
  - optic, indirect injuries of, (62) 948—ab
  - sedative, (58) 168
  - sixth cranial, paralysis of, in aural disease, (20) 1467
  - splanchnic, structure of lobule of liver under influence of, (130) 1043
  - strain as etiologic factor in nervous affections, (99) 632—ab
  - stretching of, negative results of, for perforating ulcer of foot, (140) 267
  - trunks, large, adiposis dolorosa with involvement of, (17) 2088
  - ulnar, occupation neuritis of deep palmar branch of, (88) 2004—ab
  - ulnar, recurrent dislocation of, (38) 1372—ab
- Nerves and arteries, neoplastic infection of, cancer and cirrhosis of liver with, (128) 1914
- Nerves and tobacco, (72) 76
  - cervical, section of posterior primary divisions of, in spasmodic torticollis, (14) 1554
  - ciliary, angioma of orbit, with invasion of globe along, (117) 1905
  - cranial, injuries of, from fractures of skull, *271
  - injury of, during extirpation of glands in neck, (59) 713—ab
  - peripheral, diagnosis of injuries of, from those of spinal cord, (154) 1734
  - recurrent laryngeal, paralysis of, of peripheral origin, (15) 438—ab, (83) 2092
  - seventh cervical, injury to posterior roots of, followed by posterior column degenerations, (90) 1376
  - suture of, (54) 264—ab, (34) 866
  - sympathetic and autonomous, antagonism between as affecting drug influence on internal secretion, (175) 87
  - third, complete paralysis of, tuberculosis of brain with, (37) 1821
  - to excite glands for renal secretion, probable existence of, (67) 1039
  - treatment of paralysis by plastic operations on, (107) 633—ab
- Nervous affections among poor of Rome, (139) 718
  - affections, nerve strain as etiologic factor in, (99) 632—ab
  - affections, traumatic, treatment of, (99) 1382—ab
  - affections, toxic, following house epidemic of diphtheria, (80) 1470
  - and mental diseases, hydrotherapy in, (148) 1906
  - and mental diseases in general practice, (175) 171
  - and mental disorders from alcohol, (93) 1466
  - disease, prostate as factor in, (21) 2089—ab
  - diseases, organic and functional, differentiation of, (125) 260
  - diseases, static electricity in, (70) 1465
  - disorders in Colorado, (119) 1644
  - disorders, psychic treatment of, (105) 442
  - disturbances of arms in arteriosclerosis, (121) 2197—ab
  - patients, bath treatment at Mt. Clemens for, (108) 442
  - symptoms, functional, estimation of, (153) 1734
  - symptoms produced by malaria, (19) 1906
  - systems and diseases of mind, pelvic diseases and, (97) 1904—ab
  - system, arteriosclerosis of, (77) 169—ab
  - system, autonomous in acute surgical conditions, (6) 442, (5) 535—ab
  - system, central and organs of sense, metastasis of carcinoma of uterus in, (133) 2198—ab
  - system, central, coordination of single muscular movements in, *89
  - system, central, effect of complete anemia of, in dogs resuscitated after relative death, (26) 2089
  - system, central, return of function in, after temporary cerebral anemia, (155) 870
  - system, diseases of, (100) 1281
  - system, heredity in diseases of, (2) 2189—ab, (11) 2190—ab
  - system, early diagnosis of organic disease of, (9) 2190—ab
  - system, influence of, on infective processes, (12) 2093—ab
  - system modifications in after stovain anesthesia, (70) 955—ab
  - system, recent literature on diseases of, (34) 952
  - system, syphilis of, (30) 2186
  - tissues, nature of heat paralysis in, (37) 1278
- Nervousness in children and their diet, (104) 1560—ab
  - training a prophylatic for, (82) 351
- Neuralgia and neuritis, uric acid metabolism during subcutaneous oxygen treatment of, (149) 1044—ab
  - facial, treatment of, verdict of French surgical congress on, (47) 1909—ab
  - rectal, (60) 947
  - syphilitic, (58) 81—ab
  - trigeminal, from changes in teeth, (121) 266—ab
  - trigeminal, injection of alcohol for, (3) 1276—ab
  - trigeminal, severe excision of Gasserian ganglion for, (52) 1465
- Neurasthenia, (70) 624—ab, (57) 1031—ab, (32) 1645

Neurasthenia and drug and liquor addictions, (174) 171
  and hysteria, psychology of, (24) 1377—ab
  autosuggestion in, (51) 538—ab
  blood pressure in, (4) 626—ab
  cerebellar, (118) 2100
  gastric nervous dyspepsia or dyspeptic symptoms due to everstrain, (24) 623
  indications and principles for medicinal and dietetic treatment of, (112) 634—ab
  nature and treatment of, (10) 2185—ab
  syphilitic diagnosis and treatment of, (19) 354
  treatment of, (78) 955—ab
  ultraviolet ray and high frequency currents in, (11) 2185
  ventriculi and gastroptosis, (17) 1106
Neuritis (109) 676
  and myositis ischemic (98) 1467
  and neuralgia uric acid metabolism during subcutaneous oxygen treatment of, (149) 1014—ab
  ascending (71) 1558—ab
  central (100) 1643
  multiple, (89) 2189—ab
  occupation, of deep palmar branch of ulnar nerve, (88) 2004—ab
  optic, due to chronic empyema of frontal and anterior ethmoidal sinuses, (65) 168
  plumbic ocular, in Queensland children (11) 2093
  secondary ulnar, with ischemic contracture, result of brachial thrombosis *2059
  postdiphtheritic multiple, with vesical involvement, (13) 255
Neurofibromatosis, multiple, and tumors in cerebello pontine angle, (109) 2194
Neuroglioma gangliocellulare of brain, (10) 438
Neurologists, attitude of, to electrotherapy, *13
Neurology and psychiatry, French clinics in, (51) 1817
  corporal punishment in schools from standpoint of, (89) 1115
  literature on, recent, (34) 1736
  recent advances in, (94) 1186
  roentgenology in, *723
  teaching of, in America, *1
Neuron, peripheral centripetal in tabes, improvement following Frenkel's exercise therapy of, (81) 955—ab
Neurons primary motor, disease of, causing clinical picture of acute anterior poliomyelitis result of poisoning by potassium cyanid, (71) 792
Neuroses caused by alcoholic and metallic poisoning, (186) 951
  factors in causation of, (37) 2007—ab
  gastrointestinal, (129) 1111
  hyperemia in, (112) 169, (28) 1462—ab
  occupational (90) 2189—ab
  of bladder, (65) 76—ab
  of nose, (13) 2233—ab
  of stomach (75) 74—ab
  ovarian (26) 1278
  ovarian, ultimate results from surgical vs medical treatment in, (26) 1278, (154) 1906
  reflex from ocular and nasal abnormities (12) 1815—ab, (72) 2189
  reflex, in children, (50) 1270
  vasomotor, recurrent temporary amblyopia of angiospastic origin associated with retinal angiospasm, (127) 442
  vasomotor trophic, progress and treatment of, (78) 2009—ab
Neurosis, expectation monosymptomatic, (105) 633—ab
  occupation, migraine as, *200
  of diaphragm, (115) 1741—ab
  traumatic, (64) 1185, (84) 1904
Neurotoxins specific, (66) 1738
Nevi and other lesions of skin, carbon dioxid snow in, (74) 356—ab, (105) 1057—ab
New Mexico Medical Society, (74) 1552
New York City, at what age periods and in what measure has reduction in mortality rate from tuberculosis manifested itself in, during last 40 years, (13) 2058
  harbor, sewage menace in, (57) 1552
  parasites found in, (29) 1193
Newspapers and advertising quacks, (59) 1818
Night sweats respiratory metabolism of consumptive during, (111) 1826
Nipple, carcinoma of, (119) 1914, (72) 2193
  Paget's eczema of, with carcinoma, (40) 1555
Nipples hygiene of, (74) 1193
Nitrites nitrous acid and aqua regia in determination of mineral constituents of urine, (32) 1278—ab
Nitrogen and ammonia estimations total, toxemic pernicious vomiting of pregnancy, with, (32) 1107
Nitroglycerin tablets, physiologic assay of, *2150
Nitrous oxid and oxygen as an anesthetic agent, (67) 624
  and oxygen in dental and major surgery, *907
  anesthesia, *1576
  anesthesia blood changes induced by *1586
  anesthesia, prolonged, in dental operations method of inducing, (18) 2190
Noise apparatus for detection of unilateral deafness, (33) 537
Non electrolytes and salts, influence of, on heart, (60) 350—ab
North America, impressions of surgeon visiting, (110) 877
North, E., one of Connecticut's most eminent medical practitioners. (73) 1732
Norway, infant mortality in, influence of various causes of death on, (122) 84
Nose abscess of septum of, probably due to anthrax infection, *1697
  accessory air cells in, (28) 1467
  accessory sinuses of, inflammation of, as sequel of influenza, (99) 352
  accessory sinuses of, diseased, and diseases of eye, (25, 26) 1283
  accessory sinuses of, suppuration of, (55) 350
  accessory sinuses of, suppuration of, potassium iodid in, (74) 1558
  accessory sinuses of, surgical treatment of orbital complications in disease of, *299
  affections, artificially induced hyperemia in, (141) 718—ab
  analgesia of, as prognostic symptom in dry catarrhal deafness *750
  and accessory cavities, and throat and eye, (77) 1471—ab
  and climate, (30) 444
  and ear, vaccine therapy in suppurations of, (85) 441
  and eye abnormities, reflex neuroses arising from, (12) 1815—ab, (72) 2189
  and face, non specific ulceration of bones of, (62) 1465—ab
  and nasopharynx, influence of widening of palatal arch on, (117) 1466
  and throat examination, (15) 2006
  and throat work in Vienna, (116) 1733
  and throat work, recent advancements in, through bacteriotherapy, (68) 1732
  breathing, obstructed, induration of apex from, and its differentiation, (63) 876
  chronic inflammatory edema of submucous tissues of, (58) 1039
  collodion dressings in *1152
  deformities, correction of, (133) 1906
  deformities, correction of, by paraffin, (134) 1906
  depressed deformities and fractures of, combined bridge and intranasal splints for, *1421, (98) 1552
  depressed fracture of, new operation for, (21) 1467
  disease, unusual, (133) 870
  dysmenorrhea due to condition of, (60) 264—ab
  effect of abnormal conditions in, on hearing, (114) 1466
  external, surgery of deformities, (139) 1906
  eye, ear and throat conditions, faulty, effect on mental development of school children of, (85) 1466
  eye, ear and throat, expert testimony and medical jurisprudence as relating to, (111) 1377
  external, galvanic closure of dilated veinlets on, (136) 78
  foreign bodies in, cause of maxillary empyema, (91) 1552
  headache originating in, (86) 1281
  headaches due to sinus infections of, (67) 1035
  hemorrhage from, common source of in persons previously healthy, (74) 2004—ab
  identification of meningococcus in, (51) 2007
Nose, in syphilis, insufflation of calomel in, (79) 264
  malignant disease of, (97) 1552
  menstruation from, *1077
  mouth and pharynx, general anesthesia in surgery of, (9) 498—ab
  neuroses of, (13) 2233—ab
  obstruction of, (36) 249, (8) 627
  opening into maxillary sinus through (59) 630
  opening of frontal sinus and establishment of drainage through, (67) 1552
  operation for removal of style in duct of, (141) 1057
  orbital abscess secondary to disease of, (114) 1037
  permanence of improvement in shape of, by paraffin injection, (20) 1644
  pressure and reflex pain, operation for, (99) 1904
  reflexes of, (59) 264
  respiration through, and disease, (78) 2189—ab
  saddle, repair of, (125) 352—ab, (97) 442
  sarcoma in, (65) 1280
  septal deflection, correction of, (115) 1188
  septal deformities of, operative treatment of, (102) 1826
  septal deviations, (77) 2188
  septal forceps, (96) 442
  septal perforations closure of, (163) 1159, (117) 1282
  septum of, closure of dilated veinlets on, (136) 78
  septum of, crest shaped deflection of, *222
  septum of indications for operations on (120) 266
  septum of, submucous operation on, with plea for more rapid technic (46) 257
  septum of, typical crest shaped deflection, *222
  submucous resection, for correction of septal irregularities, (117) 442
  submucous resection of lateral wall of, in chronic empyema of antrum, ethmoid and sphenoid, *1136
  surgery of (156) 1188
  throat and ear, climate of north and northwest in etiologic and therapeutic relation to diseases of, (102) 1552
  throat and ear complications of infectious diseases, (65) 2188
  treatment of hemorrhage after operations on, (124) 534
  treatment of, in spasmodic asthma, (84) 1819
  treatment of strictures of duct of, with lead styles, *1207
  tuberculous disease of, inoculation treatment, (35) 80
  turbinal removal, most rapid effective and least bloody method of, (28) 1730—ab
  work lactic acid bacilli cultures in, (18) 348
Nostrum and proprietary medicine problem from standpoint of country doctor (72) 709
Nostrums responsibility of medical profession for use of, *2022
Notification of transmissible disease, (65) 446
Nuclei, infantile disintegration of progressive infantile dystrophy of muscles, and congenital muscular defects, (83) 1115—ab
Nurses in Pennsylvania legislation concerning registration of, (115) 1282
  introductory to course of lectures for, (22) 1462
  traits they should possess, (2) 1278
Nursing, breast, from quantitative point of view, (57) 446
  breast, influence of on late development of child, (151) 86
  women, advice to, (138) 85
Nutrition and digestion, in early infancy, (45) 1285—ab
  and fresh air in laryngeal and pulmonary tuberculosis, adjuvants to, (55) 1465—ab
Nutrition, disorders of, in infants, (110) 626
  of children, practical application of food values in, (79) 1186—ab
Nyasaland, rare sclerostome of man in, (25) 354
Nystagmus, caloric, test in fistula of labyrinth, (105) 1383
  congenital, consanguinity a cause of, (126) 1282
  interpretation of, and teleology, (114) 1905
  voluntary unilateral, *1909

O

Oatmeal diet, in diabetes mellitus, (136) 267—ab, (74) 1036—ab, (120) 1200
Obesity, exclusive milk diet in, (105) 716, (92) 876—ab
  extreme, treatment of, (56) 797
Obstetric cases, (49) 440, (30) 1033
  diary of William Hunter, (44) 1379—ab, (35) 1907, (46) 2007
  drawers, (31) 1033
  forceps, (79) 1110
  reminiscences, (71) 1185
  service for laboring classes and relation of midwife to it in Michigan, (165) 171
  surgery, (141) 1037
  work from standpoint of general practitioner, (40) 1108
Obstetrics, (99) 1281
  and gynecology, modern, tasks and results of, (113) 634
  and gynecology, rôle of, gonococcus in, (100) 1904
  and gynecology, under water examination and treatment in, (86) 357—ab
  and medicine, administration of anesthetics in, (26) 1901
  asepsis in, (77) 1904
  case of, with sequelæ, (76) 1110—ab
  course in, in University of Pennsylvania, (6) 348
  hyoscin morphin anesthesia in, (133) 793
  importance of blood pressure to, (116) 177
  importance of serum diagnosis of syphilis in, (70) 798—ab
  importance of suprarenal preparations in, (53) 630—ab
  in country, (58) 1732
  in northern mining community, *917
  in Philippines, (34) 1185—ab
  old and new, (103) 1041—ab
  scopolamin morphin in, (115) 177—ab, (76) 875
  significance of blood pressure in, and its relation to work of heart, (26) 945—ab
  training for the practice of, (61) 954
  urinary infections in, (45) 1641—ab
  veronal in, (117) 634
Obstipation, chronic, treatment of, (83) 265
  is it a symptom of disease? (131) 1906—ab
  spastic, non existence of, (78) 1649—ab
Occipital bone, significance of fusion of atlas to, and manifestation of occipital vertebræ, (25) 1111
Occiput, posterior cases, management of, (59) 1375—ab, (20) 2186, (87) 2189—ab
Occupation for tuberculous convalescents, (147) 950—ab
  neurosis, migraine as, *200
Ochronosis, (136) 1043
  and alcaptonuria, (98) 448—ab
Odontoma, compound follicular, (12) 79
Ohio valley municipalities, responsibilities of, for typhoid epidemics, *1496
Oil in stomach diseases, (76) 2009—ab
  olive, Italian, 1510—ab
  sterile, to prevent intraperitoneal adhesions, (178) 353—ab
Old friends in new clothes, (95) 169
Omentopexy to intestine deprived of its mesentery, (4) 1105—ab
Omentum, anatomy, histology and physiology of, in health and disease, (44) 531
  cysts of, with retroperitoneal and retrovesical hydatid cyst, (41) 1284
  gastrocolic, unique anomaly of, (129) 352
  great, (60) 630
  great, enormous endotheliomatous cyst of, (39) 1033
  great, intra abdominal rotation of, unaccompanied with hernia, (27) 1107—ab
  great, primary sarcoma of, (66) 81—ab
  great, torsion of, and habitual partial reduction en masse, (11) 2005
  inflammation of, (56) 264—ab
  torsion of, (155) 260—ab, (26) 1107—ab, (124) 1111
Oösperm, early relationship of, to endometrium, (2) 1276
Opacities, complete congenital, of both corneæ, (55) 867

Operating, metal frame for veil to wear while, (119) 1827
  room, simplified equipment and management for, (44) 256
  rooms, separate, and their management, (14) 261
  table, living pathology of, its observation a necessary means to accurate diagnosis in abdominal diseases, (140) 1906
Operation, Gleich's, in flatfoot, (54) 1556
  ideal, for arterial aneurism, (66) 1380—ab
  immediate, blood changes in abdominal cases requiring, (66) 1642
  immediate, following traumatisms, indications for, (65) 1642
  necessity of general practitioner knowing when it should be done and of surgeon being conservative as to operation, (131) 1820
Operations, apparatus for providing visitors with complete view and for securing photographs and moving pictures of, (38) 1551—ab, (108) 1819
  effect of, on diabetic patients, (69) 169—ab
  immediate, indications for, in abdominal conditions, (63, 64) 1642—ab
  in pancreatic disease, results of, (163) 171
  intravesical, for removal of benign tumors, (95) 2092
  major surgical, psychical end-results of, (99) 259—ab
  under intrapulmonary positive pressure, *803, *805, *808, (62) 2193—ab
  which can be done without requiring after-care in hospital? (100) 358—ab
Operative points, (115) 412
Ophthalmia, fetal, (78) 631
  gonorrheal, (105) 1819
  migratory, and injuries of the globe, (122) 534
  neonatorum, (127) 626, (75) 1818-ab
  neonatorum as sociologic problem, (117) 793—ab
  neonatorum, beef serum treatment of, (95) 876—ab
  neonatorum, improved Credé technic for prevention of, (85) 1912
  neonatorum, obligatory prophylaxis of, (109) 1473
  phlyctenular treatment of, (121) 84
  purulent, pathology and treatment, (98) 1877
  sympathetic, (23) 623, (115) 1905—ab
  sympathetic, sodium salicylate in, (124) 1652—ab
Ophthalmic practice, relative importance of fitting of glasses in, (101) 1187
  treatment case, pocket emergency, *1010
Ophthalmologists, participation of, in operative treatment of orbital accessory cavities, (81) 176
Ophthalmology, (124) 260
  for general practitioners, *1833
Ophthalmoscope in general practice, (80) 1186—ab
Ophthalmovascular choke, (84) 77
Ophthalmo-tonometer, new applantation, (37) 946
Opium and cocain, insanity caused by acute and chronic intoxications with, *97
  habit and morphinism, (1) 51
  habit in North China, (94) 259
  use and abuse of, (81) 948
Opposition to medical research, *635
Opsonic immunity, nature of, (29) 256
  index, accuracy and errors, (26) 80—ab
  index and vaccines, (187) 171, (74) 533, (71) 948
  index, and opsonins, (159) 171
  index, experimental error in determining, (28) 80—ab
  index in diagnosis of infectious diseases, (88) 1649
  index in erysipelas, (26) 256
  index in infants, (27) 80—ab
  index in tuberculosis, (31) 80, (74) 533, (3) 626—ab, (61) 874, (117) 1560
  index, statistics, (29) (80) —ab
  indices, technic for determining, (85) 441
  method, in diseases of eye, (38) 80
  method, surgical view of, (33) 80—ab
  methods in comparing human and bovine tuberculosis, (6) 118—ab
  substances, thermostabile and thermolabile, interaction of, in normal serum, (25) 256—ab
Opsonic technic, (146) 86, (79) 869, (43) 1903
  theory, (152) 1188
  theory and technic, (104) 442
  therapy, (11) 166—ab, (99) 2189
  therapy in tuberculosis of bones and joints, (32) 256
  therapy, practical application of, (56) 350—ab
Opsonin, non-specific disappearance of, in serum of animals with trypanosomiasis, (113) 1741
Opsonins and agglutinins, (72) 1465
  and antiphagins in pneumococcus infection, (62) 1039
  and opsonic index, (159) 171
  and vaccine therapy, (187) 171
  and vaccines in tuberculosis, (74) 533
  bacteriolysins and hemolysins, (97) 716
  importance of, for tuberculin treatment, (108) 2011
  in eye, import of, (38) 946
  of normal and of immune sera, nature of, and opsonic effects resulting from combined action of immune body and complement, (113) 869
  specificity of, in normal serum, (24) 256—ab
  structure of, in typhoid and meningitis, (98) 716
  theoretical considerations and experimental work in, (10) 166—ab
Optic atrophy following premature menopause, probable tumor pituitary body with, (179) 171
  atrophy, unilateral, with hemiplegia, (10) 79
  nerve affections in pregnancy, (104) 877—ab
  neuritis due to chronic empyema of frontal and anterior ethmoidal sinuses, (65) 168
  thalamus, solitary tubercle in, in hemichorea, (152) 1475
Orbit abscess secondary to nasal disease, (114) 1037
  accessory cavities of, ophthalmologists in operative treatment of, (81) 176
  and adjacent sinuses, mixed streptococcus and pneumococcus infection of, (111) 1905—ab
  angioma of, with invasion of globe along ciliary nerves, (117) 1905
  calcified fibroma of, (101) 1643
  disease of sinuses near, and ocular infection, (112) 1905
  melanosarcoma of, (10) 530—ab
  right, sarcoma of, (119) 352
Orchidopexia by Hahn's method, (115) 1111
Orchitis, epididymitis, and vaginalitis from sporotrichum beurmanni, (43) 1737
Organ extracts, anaphylaxis produced by, (86) 799
Organism, actions of normal sera on, (98) 622
  in epidemic diarrhea, (7) 870—ab
Organization, medical: See Medical Organization
Organotherapy, clinical studies in, (121) 170
  present status of, (14) 2186—ab
Organs, blood vessels and limbs, transplantation of, *1662
  in chest and abdomen, orthodiagraphic examination of, (135) 1743
  volume and specific gravity of, (27) 1816—ab
Orient, medical progress in, (141) 1820
  medicine and surgery in, (1, 9) 72, (114) 260—ab
  winter cruise to, (128) 1037
Oropharynx, chronic inflammatory conditions of, (18, 19) 1467—ab
Orphan, continent without, (55) 1552—ab
Orthodiascope, new, and skiagrams, demonstration of, and x-ray as aid to diagnosis of tuberculosis of lungs, (64) 1904—ab
Orthodontia, (7) 353
Orthopedic service, present needs of, (110) 1552
  treatment in poliomyelitis, early, necessity for, (119) 1553—ab
Orthopedics, modern, tasks of, (86) 1381
  tuberculin in, (114) 1553—ab
Os calcis, fractures of, (13) 1729—ab
  calcis, gonorrheal exostoses of, (13) 1871
  calcis, non-tuberculous osteomyelitis of, (40) 2089
  external, secondary rigidity of, from acute puerperal inflammation of cervix, (27) 254—ab
  innominatum, excision of, (3) 789
  magnum, dislocation of, (125) 878
Oscar II, diabetes, last illness of, (121) 1652
Osseous system, metastatic sarcoma with special involvement of, (74) 1904
Osteitis, chondromata, bone cysts and similar affections, (80) 632
  deformans, (83) 441, (116) 1819
  of lower jaw simulating sarcoma, (53) 445
  Paget's deforming, (138) 1474—ab
Osteoarthritis, endemic deforming, in eastern Siberia, (53) 713—ab
Osteochondroma and chondroma, clinical and histologic study of, (71) 1039
Osteochondritis, congenital, syphilitic, simulating Erb's paralysis, (47) 2002
  of knee, dissecting, (51) 1909
Osteoma, (63) 1185
  and chondroma in faucial tonsils, (142) 950
  cutis, (144) 1820
Osteomalacia, (5) 626
  and ovarian antibodies, (108) 449-ab
  and rachitis, (94) [illegible]89—ab
  and rachitis, influence of suprarenals on bony skeleton in relation to, (7) 1377—ab
  suprarenal preparations in, (70) 82, (138) 718
Osteomyelitis, (58) 1552
  acute, in adolescents, emergency treatment of, (42) 263
  acute suppurating, treatment of, (180) 87—ab
  non-tuberculous of os calcis, (40) 2089
  of adolescence, (21) 1462
Osteopathy and scientific mechanotherapy, (56) 440
  vs. drug treatment, *2135
Osteosarcoma of knee joint, (0) 622-ab
Osteotome, spiral, driven by surgical engine in craniotomy, *1150
Otitis-media, acute, (108) 1282
  acute, early diagnosis and treatment, (63) 76
  acute, followed by acute suppuration of labyrinth, (90) 2092
  acute, in infancy and childhood, (70) 868—ab
  acute, indications and technic for incising drumhead in, (111) 793
  acute, method of arresting, (80) 264
  acute, prophylaxis and treatment of, (101) 626, (72) 868—ab
  acute, pyocyanase in, (62) 1647
  acute, spontaneous exenteration of mastoid from, (173) 950
  acute, suppurative, pathology and treatment of, (55) 1732
  acute, suppurative, pathology of, and indications for operation in acute mastoiditis, (73) 868
  acute suppurative, increase of specific gravity of pus in, as indication for opening mastoid process, and errors in Hammerschlag's method, (139) 1906
  acute, suppurative, thrombosis of lateral sinus and internal jugular vein following suppurative mastoiditis, caused by, (68) 624
  acute, surgical treatment of, (72) 1904
  boric acid treatment of, (128) 1117
  chronic, (159) 86—ab
  chronic recurrent suppurative and mastoid, and intracranial complications, (59) 1732, (88) 2092
  chronic suppurative, (151) 171, (6) 1519—ab, (9) 1815
  chronic suppurative and brain abscess, (34) 1551
  chronic suppurative, complicated by vertigo and ataxia; operation, recovery, (183) 171
  chronic, suppurative deficient cerebration in; cure by radical mastoid operation, (144) 950
  chronic suppurative, fatal cavernous sinus thrombosis following, (34) 537
  chronic suppurative, radical mastoid operation for, (5) 1461
  chronic, vaccines in, (68) 1465—ab
  complicating scarlatina and measles, treatment of, (48) 1270—ab
  in epidemic influenza, sequelæ and treatment, (147) 171
  isolated paralysis of external rectus with, (74) 539
  paralysis of abducent nerve associated with, (123) 1282
  Purulent: See Acute and Chronic Suppurative
  suppurative, brain abscess following, (88) 793
  suppurative, intracranial complications of, (77) 625, (144) 626—ab, (128) 870
Otitis, scarlatinal, occurrence and treatment of, (74) 1824—ab
Otoantritis, (67) 792
Otolaryngology, unclassified conclusions in, (77) 792
Otology, rhinology and laryngology, borderline of, *261
Otorrhea, chronic, complications of, (10) 627
Otosclerosis, (85) 2092
  etiology of, (84) 2092
  symptoms and diagnosis of, (86) 2092
Outdoor life for prevention and cure of disease, (188) 951
Out-patient department, functions of, (9) 261—ab
Ovarian cystoma, polypous, (106) 2099
  cysts, dermoid, of unusual size, *2218
  cysts, mixed, late recurrence and generalization after incomplete operations on, (49) 1113
  dermoid, multiple peritoneal pseudometastases of, (85) 1115
  diseases and ovarian neuroses, surgical, vs. medical treatment in, (26) 1278, (154) 1906
  perithelioma, threatening internal hemorrhage from, (130) 359
  syndrome, psychic disturbances in, (56) 2007—ab
  tumors complicating pregnancy and puerperium, (90) 169—ab
  tumors, embryonal, (111) 359
Ovaries and tubes, conservative surgery of, (135) 1111, (66) 1465—ab
  and tubes, operations on, (78) 529-ab
  microscopic metastasis in, with primary carcinoma of stomach, (96) 1649
  preservation of, in hysterectomy, (42) 75—ab
  reimplantation of, (90) 956—ab
  sarcoma of, (110) 949
  transplantation of, (35) 707—ab
Ovariotomies, results of, for anatomically malignant and dubious tumors, (91) 716—ab
Ovariotomy during delivery, (81) 1739, (23) 2094—ab
  during pregnancy, (38) 1646—ab, (35) 1817—ab
Ovary and pancreas, internal secretion of corpus luteum and reciprocal relations of, (123) 1742—ab
  and tube, hernia of, complicated by strangulation of intestine, (11) 914
  antibodies of, and osteomalacia, (108) 449—ab
  cancer of, with other tumors, (80) 82
  carcinoma of, histogenesis and diagnosis of, (58) 538
  chorioepithelioma, primary of, (78) 82
  cyst, dermoid of, (50) 1646
  large dermoid cyst of, with carcinomatous degeneration involving ⅓ of bladder; extirpation; recovery, (110) 1110
  cysts of, bilateral, (43) 1468
  endothelioma of, (76) 82—ab
  fatty degeneration of, a cytotoxin inducing, (117) 177
  solid fibroma of, obstructing delivery, (13) 2190
  solid teratomas of, (145) 1744—ab
  surgical vs. medical treatment of, (26) 1278, (154) 1906
  tumor of, typhoid suppuration of, (117) 1117
  transplantation of, results of, on body weights and egg weights in fowls, *1314
  tumors of, and ascitis, (8) 710
  tumors of, unilateral, and menstruation, (100) 1472
Overcivilization, effect of, on maternity, (35) 1902—ab
Overexertion, acute dilatation of heart from, (109) 449
Overpressure, apparatus for, (184) 87—ab
Overweight and underweight on vitality, influence of, (12) 1032—ab, (96) 1167—ab
Oviduct in hen, resection and end-to-end anastomosis of, without loss of function, (52) 1103—ab
Ovulation and pregnancy, forensic aspects of, (78) 1558
Ovum, primary implantation of, in pelvic peritoneum, (29) 2001
Oxaluria and phosphaturia, (51) 1039
Oxidation of phenyl derivatives of fatty acids in animal organism, (44) 1731
Oxygen and intubation, resuscitation by, in apparent death, (132) 2193—ab
  and mental states in cause and cure of disease, (18) 1278
  and muscular exercise as form of treatment, (7) 1554—ab
  and nitrous oxid as anesthetic agent, value of warming vapor of ether and chloroform, (67) 624

Oxygen and nitrous oxid in dental and major surgery, *907
  consumed in waters, determination of (56) 1108
  continuous current of, in puerperal infections, (42) 1821—ab
  inhalations on athletes, influence of, (25) 1028
  in medicine and surgery, (107) 626—ab
  in tuberculous peritonitis (15) 865—ab
  pneumonia treated by continuous inhalation of (21) 712—ab
  treatment, subcutaneous, of neuritis and neuralgia, uric acid metabolism during (111) 1641—ab
  value of consumption of, as test for waters, (111) 2011
Ozena and atrophic rhinitis, (149) [illegible]
  [illegible]' theory as etiologic factor in, (94) 626
  pyocyanase in, (105) 1116
  treatment of atrophic rhinitis including (147) [illegible]
  with atrophic rhinitis, pathology of, (146) 353

P

Pachymeningitis external suppurative, and tumor of spinal cord, (80) 2091
Packard Mrs., (25) [illegible]
Pads on finger joints (...) [illegible]
Paget's disease of breast, (119) [illegible]
  of bones (70) 1911
  See also Carcinoma
Pain abdominal diagnostic significance of (168) 171 (1) 1 07—ab (145) 1806
  acute epigastric (144) 412
  as chief or sole expression of psychic state (125) 412
  clinical aspects of (9) 14?—ab
  lancinating in head in tabes dorsalis (106) 1913—ab
  left sided extra significance of, in appendicitis, (111) 949—ab
  morphin in, (74) 1280
  referred, (110) 531—ab
  remote, following abdominal operations, (95) 1187—ab
  sensitiveness to, of viscera innervated by sympathetic (85) 2105—ab
Pains lightning, and gastric crises, arterial pressure in tabes dorsalis and its modification under influence of, (53) 1758—ab
Palatal arch, influence of widening of on nose and nasopharynx, (117) 1406
Palate cleft, (151) 1097
  cleft operation for, (134) 352 (106) 541, (51) 713—ab
  hard and maxilla in primates, (76) 1111
Palatoglossus muscle, isolation of and congenital detachment of faucial pillars, (132) 870
Palestine, hirudinea as human parasites in (50) 1079
Palpation of appendix, (11) 177
Palsies ocular, reflex eye movements a differential sign in (113) 1188
Palsy See also Paralysis
  Bell's, in infant, (44) 140
  facial and auditory symptoms with herpes zoster oticus facialis, or occipitocollaris in herpetic inflammations of geniculate ganglion (36) 866
  of extraocular muscles in exophthalmic goiter, (99) 442
Panama American triumph in, (8) 78—ab
  malaria at, (7) 2000
  sanitation Treves commend 651 ab
  treatment of amebic dysentery at, (11) 2234—ab
Pancreas activity, inhibition of, by extracts of suprarenal and pituitary bodies, (38) 1462—ab
  acute disease of, mechanism of shock in (128) 170
  and biliary passage, jaundice due to disease of, (15) 1106
  and ovary, reciprocal relations of, and internal secretion of corpus luteum, (123) 1742—ab
  and stomach, action of hydrochloric acid on secretion of ferments in (71) 875
  benign and malignant diseases of, (124) 170—ab
  cancer of body of, (4) 1908—ab
  cyst of calcified (28) [illegible]
  cystic tumors of (114) 1977
  diseases of, diagnosis and treatment, (17) 2093
  disease results of operations in, (16) 171
  diseases urinary symptoms in *[illegible]
  ferments in therapeutics (77) 715
  function, testing (10) 73—ab
Pancreas gastrointestinal diseases and, (127) 170—ab
  hemolysin in, ([illegible]) [illegible]
  insufficiency of, Loewi's sign of, (109) 560—ab
  physiology and chemical pathology of, in pancreatitis, (21) 2231—ab
  physiology of, (12) 170
  sarcoma primary of (125) 1471
  surgery of, (125, 129) 170—ab, (85) [illegible]—ab
  surgery of, and cholelithiasis, (130) 170
Pancreatic activity, inhibition of, by extracts of suprarenal and pituitary bodies (47) 2302
  and intestinal juice, enzymes of, obtained through jejunal fistula, (60) 1732
  diabetes and gallstone (27) 2231 ab
  duct, changes in, and relation to chronic pancreatitis (147) 1111
  fistula, physiology and pathology of secretion of (81) [illegible]—ab
  fistula, secretion from and influence on it of antidiabetic diet, (68) 1380—ab
  insufficiency, (117) [illegible]
  juice and glycosuria, (19) 1111
  reaction, illustration of crystals of, (5) 2000
  secretion, diagnostic importance of, and method for obtaining, from stomach (67) 1980—ab
Pancreatitis, acute, (58) 624, (81) 792—ab
  acute operative treatment of, (64) [illegible]—ab
  and gallstone disease, *377
  chronic, *374, (53) 624
  chronic changes in pancreatic duct and (147) 1111
  chronic drainage of gall bladder in, ([illegible]) 2187
  diagnosis of, (22) 2231—ab
  diagnosis and treatment of, (83) 1649 (7) 2189
  etiology and pathogenesis of, (20) 2234—ab
  pathology and diagnosis of, (51) 1641
  physiology and chemical pathology of pancreas in, (21) 2234—ab
  suppurative (145) 1118—ab
  surgical treatment of, (24) 2274—ab
  with illustration of crystals of pancreatic reaction (5) 2000
Panhysterectomy, impacted shoulder—tonic contraction of uterus—removal of uterus and contents by, (30) 872
  preservation of ovarian tissue in, (47) 75—ab
Pansinuitis, method of operating for, (29) 1167
Papilloma, intracystic, of accessory thyroid, (46) 445
  of cornea, (123) 1905
  of larynx in children, (92) 2092
  subglottic, cured by laryngotracheal fissure (63) 1280
Para-appendicitis, treatment, (109) 84
Parabiosis and pancreatic diabetes, (107) 84—ab
Paracentesis of pericardium in tuberculous pericarditis, embolic hemiplegia three days after, (11) 1183
Paradysentery and similar affections in children, (107) 1116
Paraffin, correction of nasal deformities, (134) 1906
  injection, permanence of improvement in shape of nose obtained by (20) 1644
  prothesis, (89) 1040—ab, *2028
Paralysis See also Paresis and Palsy
Paralysis, (143) 442
  abducent after spinal anesthesia, (88) 1040
  acute ascending, Landry's type, with recovery, (52) 257
  acute of stomach, with secondary occlusion of duodenum (122) 717
  agitans, differential diagnosis of, from paralysis, (31) 2186
  and epilepsy, due to germ" (17) 73—ab
  and tabes in light of recent research on syphilis, (72) 1558—ab
  brachial birth, (47) 867—ab, (17) 1816—ab
  bulbar, followed by progressive muscular atrophy (12) 128[illegible]
  complete of both third nerves tuberculosis of brain with ([illegible]7) 1891
  differential diagnosis of functional from organic and from other lesions ([illegible]1) 2186
  diphtheritic (94) 574
  diphtheritic, treatment of, (111) [illegible]—ab
  during Pasteur treatment, (55) 1380
Paralysis Erb's congenital syphilitic osteochrondritis simulating, (47) 2092
  facial, peripheral, of syphilitic origin, diagnostic importance of its recognition, (29) 2186
  facial, surgical treatment of ([illegible]8) 1907
  general and syphilis precipitin reaction in (72) 356
  general and tabes, pathology and treatment of, (4) 2093—ab
  general, diagnostic importance of inequality of pupils in (39) 953
  general in childhood, *1946
  heat nature of, in nervous tissues, (7) 1278
  infantile, *1677
  infantile, epidemic, *112
  infantile, nerve anastomosis in, (16) 948—ab
  infantile, surgical treatment of, (30) 1467
  infantile treatment of, (12) 73—ab, (41) 1555
  infantile treatment of deformities of (67) 1612—ab
  infantile, with scoliosis and muscular atrophy, (43) 1907
  ischemic method of dealing with, (98) 77
  isolated of external rectus with otitis media, (74) 579
  juvenile from inherited syphilis, (10) 1560
  Landry's recovery, (52) 257
  musculospiral, due to dislocations of head of radius (47) 1034—ab
  nervous, after injury of arm, (91) 2194
  of abducent nerve with otitis media, (1 5) 1282
  of brachial plexus and involvement of sympathetic unilateral paresis of diaphragm from, (77) 1381
  of larynx cervical tumors simulating, with enlarged glands, (22) 1467
  of larynx, peripheral, recurrent, (15) 498—ab
  of larynx recurrent and abductor, (15) 255, (6) 706, (6) 865—ab, (81) 2091, (82) 2092
  of muscles and retching relations between, and apomorphin poisoning (83) 1381—ab
  of recurrent laryngeal nerves of peripheral origin, etiology of, (83) 2092
  of trochlearis, and herpes zoster ophthalmicus, (129) 1982
  progressive and congenital syphilis (112) 1561—ab
  recurring, chronic interstitial nephritis and, (169) 171
  spastic spinal, in adult, tenotomy of psoas magnus, psoas parvus and iliacus in, (103) 1826—ab
  spinal acute ascending histology and classification of, (70) 539—ab
  syphilitic, (58) 81—ab
  traumatic, of cervical sympathetic, (56) 954
  traumatic, operative treatment of, (92) 1559—ab
  treatment of, by plastic operations on nerves, (107) 633—ab
  Volkmann's ischemic, (37) 1572—ab
Paramecium, adjustment of, to distilled water and its bearing on problem of necessary inorganic salt content, (46) 1817—ab
Paranoia and delusions (68) 1193
  types of, (88) 869—ab
Paranoiac, (21) 348—ab
Paraplegia, (11) 1283
Parasites, abundance of in fatal pernicious malaria, (5) 442
  animal, of man, prevalence and distribution of, in Philippines, their possible influence on public health, (30) 1185
  eggs of facilitation of detection of, in stools (61) 1193—ab
  found in New York, (29) 1816
  human, in Palestine, hirudinea as, (50) 1039
  intestinal elimination of first step in solution of tuberculosis problem in Philippines, (12) 2235—ab
  intestinal locating outside of intestine (59) 954
Parasitic disease, new (138) 1043
  flagellata and ciliata of intestinal tract, cultivation of, (95) 869
Parasyphilitic affections and syphilitic infection, deviation of complement in (153) 360
Parathyroid emulsion tetany following thyroidectomy cured by subcutaneous injection of (32) 1033
  insufficiency, albuminuria in, (124) 450—ab
  treatment of pregnancy albuminuria and eclampsia, (119) 1651—ab
Parathyroidectomy, arrest of growth in rats by, (85) 632
  experimental tetany after, (83) 632
Parathyroiditis chronic, results of, as obtained by ligation of parathyroids in dog (109), 869
Parathyroids, (83) 948, (96) 2004
  and lime content of body, (85) 1194
  and thyroid, *25
  and thyroid, anatomy of, (32) 581
  ligation of, in dogs, results of chronic parathyroiditis as obtained by, (109) 869
  pathology of (32) 262—ab, (110) 869
Paratyphoid (102) 1710
  and melena in new born (62) 264 ab
  and typhoid in Palatinate during 1902-1906 (81) 1194
  Bacilli: See Bacilli
  clinical and bacteriologic study of, (120) 1117
  group in man bacteria of, occurrence of, (57) 264
Paré Ambroise,—man and surgeon, (142) 534
Paresis See also Paralysis
  and locomotor ataxia, (7) 255—ab
  functional of extremities, new sign of, (23) 2276—ab
  general, (152) 1734
  malingering and functional of lower extremities new sign for detection of, *716, *1909
  of abductors of vocal cords and laryngeal vocal cords, *815
  tumor of frontal lobes, with symptoms simulating, (73) 792
  unilateral, of diaphragm from total paralysis of brachial plexus and involvement of sympathetic, (77) 1381
Parotitis, acute slow pulse rate in, ([illegible]) 450—ab
  double suppurative complicating typhoid in childhood, *2216
  experimental, *668
  from pneumococcus infection, (130) 178—ab
  non suppurative involvement of labyrinth in *1961
  postoperative, (34) 173—ab
  suppurative following abdominal operations, (112) 534—ab
Parturition See Labor
Passages, biliary, results at Hochenegg's clinic of operations on, (95) 715
Pasteur treatment paralytic accidents during (55) 1380
Patella, fracture and refracture of, treatment (29) 1736—ab
  fractured, (106) 949, *1944
  fractured, apparatus for, (65) 792—ab
  fractured, screw apparatus to promote healing of, (87) 1391—ab
  fractured, treatment of, (72) 169—ab
  removal of, for ununited comminuted fracture (81) 533—ab
  tendon suture of, (7) 72
Pathogenesis of local tetanus, (105) 1041
Pathognomonic signs fallaciousness of, in diagnostic work, (55) 168—ab
Pathologist clinician and layman, correlation of, *191
Pathology, anatomy and therapy of chronic endometritis, (58) 2193—ab
  and anatomy of hernia sac, (5) 1111—ab
  and bacteriology of acute rheumatism (125) 1553
  and bacteriology of plague, (68) 1818
  and diagnosis study of, should not lessen confidence in intelligent use of drugs, (82) 1186
  and modern surgery, (30) 1462
  and physiology of emotions, physical basis of mental etiology, (8) 865
  and physiology of gastric secretion, (28) 2089
  and physiology of play of pupils (62) [illegible]
  and public health, coordination in, (10) 1111
  chemical, and physiology of pancreas in pancreatitis (21) 2231—ab
  clinical review of, (29) 261
  experimental apparatus of service in (102) [illegible]
  functional of primitive cardiac tissue, (24) 765
  in dental colleges *30
  living, of operating table Its observation a necessary means to accurate diagnosis in abdominal diseases (140) 19[illegible]6
  review (19) [illegible]
  physiologic, teaching of at University of Michigan, ([illegible]) 2004

Pathology, practical bearing of, on treatment of certain skin diseases, (93) 259
  of fistula between stomach and colon, (97) 448—ab
  review of, (46) 947
Patient, examination of, (98) 1466
  importance of making cough during auscultation of lungs, (160) 1037
  personal experiences of, in hospital for insane, (56) 257, (96) 626, (161) 1037, (103) 1187, (87) 1643
  preparation of, for normal labor, (84) 2189
Patients, allowing to get up early after laparotomy, (119) 1561—ab, (131) 2197
  care of, after laparotomy, *845
  postoperative, care of, with reference to intestinal and renal functions, (27) 866
  typhoid, nourishment of, (80) 1732-ab
Pearls, enamel, (39) 712
Peace, work, progress, opportunity for, (43) 946
Pediatric practice, analgesics in, (64) 257
  practice, indication for stimulants in, (62) 257—ab
Pediatrics, fresh-air treatment in home as applied to, *1505
  in Chicago hospitals and dispensaries, (90) 1819
  is study of, worth attention it gets, (99) 949
  need of postgraduate study in, (43) 867—ab
  study of, 906—ab, (99) 949
Pellagra, *397, (147) 1044, *1076, (44) 1737
  experimental, blood in, (113) 1383
  prophylaxis of, hygienic care of grain in, (119) 878
Pelvic, abdominal, and labial tumor, (7) 2234
  abscess, high, conservative drainage of, (93) 1110
  abscess, due to appendicitis, rectal drainage in, (15) 711—ab
  abscess, rectal drainage in, (139) 353—ab, (15) 711—ab
  abscess secondary to peritonitis, (51) 355
  abscess, treatment of, (89) 169—ab, (80) 1825—ab
  and abdominal operations, plea for drainage in, (75) 2004—ab
  disease in women, ionic medication in, (19) 80
  diseases and diseases of mind and nervous system, (97) 1904—ab
  diseases of insane women, operations for relief of, (41) 623—ab
  exudates, gynecologic massage in treatment of plastic infiltration and, (47) 1113
  organs, displacements of, (22) 1736
  organs, female, treatment of acute infections of, (88) 169—ab
  pathology and sea sickness, (17) 2190—ab
  tumor, enlarged wandering spleen simulating, (20) 2093
  veins, ligation of, for puerperal pyemia, (124) 267—ab
  viscera, displacements of, pathology and operative treatment of, (37) 263—ab
  viscera, female, supports-in-chief of, (3) 260—ab, (36) 263—ab
Pelvis, actinomycosis of, (12) 944
  and femur, fractures of, trauma of kidney and impaction of pubic arch in bladder, (87) 948—ab
  acute abdominal lesions of, (23) 712
  apparatus for compressing, in operation for exstrophy of bladder, (99) 358
  chondrodystrophic dwarf, pathology and therapy of, (62) 1113
  contracted, Cesarean section versus other methods of delivery in, (9) 1377
  contracted, childbirth with, (64) 538—ab
  contracted, distribution, origin and prevention of, (77) 1194—ab
  contracted, hebosteotomy vs. other procedures in management of labor with, (25) 2001—ab
  contracted, management of labor in minor degrees of, and indications for abdominal Cesarean section, (46) 167—ab
  contracted, moderate or radical conservatism in treatment of, (97) 176
  development of, and age at first menstruation, (54) 2192—ab
  development of, in lambs, influence of castration on, (60) 538
  dislocation of, (78) 2097
  does weight of trunk influence shape of, (114) 1117
Pelvis, female, fluctuating tumors of, diagnosis and treatment of, (139) 1188
  female, intra-abdominal pressure and visceral support, (39) 1646—ab
  female Japanese, comparative size of, (59) 538
  female, models of cross sections of, for topographic representation of hemorrhage, inflammation and neoplasms, (126) 1561
  lesions of, and constipation, mechanical vibration in treatment of, (7) 706
  myxoma of, true and false, (110) 1282—ab
  narrow, spontaneous childbirth with, (65) 1113
  outlet of, neglect of plastic surgery about, (57) 532—ab
  paradox position of, in scoliosis, (31) 1640
  rare dislocations of, (47) 797
  rare tumor of, in child, (23) 952
  sections of, vs. Cesarean sections, in mechanical obstructions to childbirth, (37) 707—ab
  small, removal of giant tumors of, with resection of pubic bone and symphysis, (65) 2193
  three procedures for entering, *912
  treatment of inflammatory disease of (56) 1034
  tumors of, displacement of ureter in, (8) 1377
Pemphigus, acute contagious, occurring in febrile diseases, (36) 1821
  chronic bullous, and septicemia from B. pyocyaneus, (40) 873
  foliaceus, (109) 793
  neonatorum, epidemic of, (44) 2002
Penis, ablation in one piece of epithelioma of, and its lymphatic territory, (52) 1738—ab
  amputation of, in syphilis, (125) 626
  amputation of, technic of, (114) 266
  clamp in acute gonorrhea, (26) 623
  dual malignancy in, (124) 626
  Deierck's fibers in (91) 2098
  lupus of, successfully treated with tuberculin, (40) 2187
  plastic operations on, to remedy congenital adherence of prepuce, (80) 1114
Pennsylvania State Medical Society of To-day, (115) 534
  why she should build, equip and maintain hospital for restraint, care and treatment of inebriates, (96) 169
People, surgical rights of, (125) 1037-ab
Pepsin and lab in fundus and pylorus of human stomach, and relations between action of pepsin and concentration of acid, (99) 1041
  clinical value of quantitative estimation of, (39) 1463—ab
  content in fasting stomach, (135) 85
  determination, simplification of Jacoby-Solms ricin method for, (2) 944—ab, (88) 1115—ab
  digestion, (72) 446
  digestion, influence of hydrochloric acid on, (80) 1558
  digestion, Schütz's law of, (46) 953
  Edestin test for, (92) 83
  elimination of, in urine, (95) 83
  in infant stomach and dependence of its digesting power on presence of hydrochloric acid, (97) 1116
  in stomach content, biuret test for, (169) 87
  law of action of, (172) 87
Percussion, light, importance of, in physical diagnosis, (65) 1375
  hammer and plessimeter for threshold percussion of heart, (89) 876
  resonance, tympanitic and nontympanitic, graphic registration of, (96) 1041
Perforation, improved instrument for, (125) 717
  of alimentary canal by swallowed bodies, (107) 1282—ab
Periappendicitis, treatment, (109) 84
Periarteritis, nodose, (65) 630
  nodose, as consequence of staphylococcus sepsis after angina, (104) 266
Periarthritis of shoulder, (16) 1639—ab, (17) 1901—ab, (17) 2001, (19) 2234—ab
Pericardiectomy, experimental, and possible therapeutic application, (144) 1118—ab
Pericardiotomy and thoracotomy for wounds of heart, advances in technic of, (52) 1034
Pericarditis, acute fibrinopurulent, and hypopyon iritis, septicemia with, caused by meningococcus, (44) 1903—ab
Pericarditis and chronic adhesive mediastinopericarditis, surgical treatment of, (52) 954—ab
  fatal suppurative, in childhood, (30) 262
  in poisoning from mercury bichlorid, (65) 1039—ab
  tuberculous; embolic hemiplegia three days after paracentesis of pericardium, (11) 1183
Pericardium, paracentesis of, in tuberculous pericarditis, embolic hemiplegia three days after, (11) 1183
Pericolitis and mucous colitis, (14) 535—ab
Perilymphangitis of liver, (26) 73—ab
Perimysiitis crepitans and tendovaginitis, tendon sheaths of foot and, (76) 2193
Perineorrhapy for complete lacerations, ((33) 707
  new, technic of, (101) 352 (88) 1036
Perineum, buried catgut and intercutaneous suture in plastic operations on, (48) 531
  internal rotations and lacerations of, (18) 866—ab
  laceration of, complete, secondary repair of, (70) 2091—ab
  laceration of, treated by Simpson-Vicarelli technic, (40) 1907
  perineorrhaphy for complete lacerations, (33) 707
  protection and repair of, (142) 1188
  protection of, (129) 267, (122) 1561—ab
  repair of, (6) 1371
  repair of superficial lacerations of, with Michel's clamps, (96) 1110
  section of, for obstruction of prostatic urethra, (19) 866—ab
Perioste-edema, thoracic, of angioneurotic origin, (8) 1639—ab
Periosteum, neoformation of bone at distance from, (99) 266
  transplantation of, in bony ankyloses of joint, (56) 1822—ab
Peristalsis of intestines, increased, dissolved substances in stools with, (61) 1910
Perithelioma, ovarian, threatening internal hemorrhage from, (130) 359
Peritoneal adhesions, (84) 1110
  tuberculosis, (70) 169
Peritoneum, anatomy and surgery of, (14) 865
  dysmenorrhea as result of traction on, (109) 359—ab
  pelvic, primary implantation of ovum in, (29) 2001
  serous coat of blood vessels compared with, (32) 790—ab
Peritonitis, acute, (69) 631—ab, (64) 1465
  acute, before and during childbirth, (121) 717
  acute diffuse, following appendicitis, treatment of, (111) 78
  acute diffuse, in women, vaginal or suprapubic drainage in, (43) 1551—ab
  acute general septic, treatment of, (41) 1279—ab
  acute puerperal, experimental study of operative treatment of, (120) 1742—ab
  acute suppurative, diagnosis and treatment, (120) 1734
  acute tuberculous, in adults, (19) 536
  and appendicitis, treatment of, (100) 632
  and ileus, pulse in, (130) 267
  apparatus for continuous saline enemas in, *406
  causes of, during pregnancy, (13) 443
  chronic, with complete intestinal obstruction, *719
  diffuse, appendicitis with, (4) 260—ab
  diffuse, in woman, (81) 1110—ab, (28) 1640—ab
  diffuse, suppurative, (20) 536
  diffuse suppurative, adjustable canvas chair as aid to Murphy treatment of *1133
  diffuse suppurative, following appendicitis with perforation, (97) 626
  diffuse suppurative, treated without drainage, (127) 1037
  due to appendicitis, (2) 2185—ab
  fetal, (67) 2193
  general, diagnosis and treatment (172) 171, (85) 1110
  pelvic abscesses secondary to, (51) 355
  perforative, (124) 352—ab
  perforative and infective, (95) 1733—ab
  pneumococcal, (27) 872, (29) 1190
  pneumococcal, in children, (36) 1467
  postoperative complications of, (119) 260
Peritonitis, principles of treatment of, based on physiologic and pathologic conditions, (57) 1818—ab
  pseudotuberculous, from relics of vegetables, (143) 1118—ab
  puerperal, and thrombophlebitis, operative treatment of, (48) 630—ab
  tuberculous, (6) 2234
  tuberculous experimental, (126) 1644
  tuberculous, iodized gelatin in, (131) 1743—ab
  tuberculous, medical treatment of, (132) 1562—ab
  tuberculous, oxygen in, (15) 865—ab
  tuberculous, retroperitoneal tumor connected with kidney simulating ascites from, (2) 1038
  tuberculous, statistics of, at Johns Hopkins Hospital, (42) 1464—ab
Permanganates, an attempt to rehabilitate, (28) 1645—ab
Peroneus, silk tendon as substitute for, (69) 264
Peroxids, action of on digestive organs (91) 1040
Personal factor in disease, (15) 1549
Personality, case of alternating, *9
Pertussis: See Whooping Cough
Pessaries, mishaps from, (110) 1289
Pessary, antiprolapse, (98) 799
  inflatable, for hemorrhoids and prolapse, (96) 265
  treatment of convoluted uterus, (92) 1195
Pessimism, therapeutic, (105) 1904
Pfannenstiel's transverse incision of fascia, advantages of, (82) 875
Phagocytosis, (81) 1194
  checking of, in reagent glass by culture filtrates, (107) 1913
  contrast staining of bacteria and leucocytes in research on, (61) 630
  in human blood serum when mixed in vitro with horse serum, (5) 951—ab
Phalanx, distal, fracture of, from tearing off of extensor tenden, (60) 174
Pharmacist and physician, (107) 169, (105) 352
  and physician, relation of, to U. S. Pharmacopeia and National Formulary, (106) 169
  manufacturing, what he does for the physician, (75) 1904
Pharmacists, should they manufacture and dispense? (80) 533
Pharmacodynamic action, physicochemical properties and chemical constitution, (85) 799
Pharmacologic preparations, scientific tests of, are physicians justified in taking pay from manufacturing chemists for? (65) 1648—ab, (105) 2011—ab
Pharmacology and therapeutics, necessity of added emphasis in teaching of, (25) 623
  new fundamental principle in, (86) 2195—ab
Pharmacopeia and N. F. preparations, (107) 352
  as legal standard, *2020
  as standard for medical prescribing, *2013
  French, modifications in, (60) 1286, (47) 1646
  Swiss, new, and physician, (75) 1824
  Swiss, new edition of, (84) 265
  U. S. and National Formulary, need of more intimate knowledge of among physicians, *2018
  U. S. and National Formulary preparations vs. proprietaries, (46) 1185
  U. S. and National Formulary, relation of physician and pharmacist to, (106) 169
  U. S., from physicians' standpoint, (131) 260
  U. S., a therapeutic standard, (77) 1280
Pharmacy and medicine, *1832
  and medicine, Kant's relations with, (107) 358
Pharynx, nose and mouth surgery, general anesthesia in, (9) 438—ab
  lower, total extirpation of, for epithelioma, with permanent esophagostoma, (3) 1815—ab
  primary erysipelas of, *316
  tuberculosis of, (62) 446
Phenolphthalein, accidental overdose of, *1782
  action and dosage of, (7) 1931—ab
  action of, and fermentative power of polypus secretion in extensive polyposis of colon and rectum, (97) 1041
  purgative properties of, (43) 263—ab
Phenyl derivatives of fatty acids, oxidation of, in animal organism, (44) 1731

Philippines, board for study of tropical diseases as they occur in, (103) 1733
  fevers of, simple and double continued, (81) 169
  frequent reappearance of cholera in, cause of, (66) 532—ab
  hydrophobia in, *2143
  medical work in, (55) 1903
  obstetrics in, (34) 1185—ab
  prevalence and distribution of animal parasites of man in, (30) 1185
  tuberculosis problem in, elimination of intestinal parasites first step in solution of, (12) 2233—ab
  water supply of, (68) 532
Phimosis, operation for, (120) 430
Phlebitis following abdominal operations (103) 1110
  of left leg following unoperated appendicitis, (43) 707—ab
  of sigmoid sinus, jugular bulb and internal jugular vein, and encephalitis and purulent meningitis, complicating mastoiditis (83) 1552
  postoperative, (43) 707—ab
  postoperative femoral, (111) 534—ab
  varicose epigastric veins, following, (30) 945—ab
Phlegmon, gaseous, pathologic importance of bacillus of, (127) 1474
  neutral potassium oxalate in, (111) 2099—ab
Phloridzin diabetes, action of glutaric acid on, (55) 954
  glycosuria, production of sugar from glutamic acid ingested in, (72) 350
  glycosuria, sugar excretion in, influence of cold and mechanical exercise on, (71) 350—ab
  test of kidney functioning, (110) 177—ab
Phosphaturia and oxaluria, (54) 1039
Phospho-oxychlorid gas, industrial, poisoning by (101) 1289
Phosphorus cod-liver oil, influence of, on metabolism of lime, (92) 265
  intoxication followed by tetany, (137) 1474
  intoxication, influence on formed elements of blood, (102) 83
  necrosis, treatment of, (54) 355—ab
Photographs and moving pictures of operations, apparatus for securing, (38) 1551—ab
Photography, color, for stereoscopic work, (110) 1116
  color, in medicine, (132) 85
  color, Lumière process of, in medicine, (126) 1734
Phototherapy of lupus, (54) 2036—ab
Phthisis: See Tuberculosis
Physical deterioration and national efficiency, relation of alcohol to, (44) 349
  signs, physics of, and respiratory murmur, *390
Physician, administration of drugs by, or does self-administration pay? (65) 709
  and his relation to society, (183) 951
  and laity, (75) 948
  and medical ethics, (189) 171, (97) 1733
  and new Swiss pharmacopeia, (75) 1824
  and pharmacist, (107) 169, (105) 352
  and pharmacist, relation of, to U. S. Pharmacopeia and National Formulary, (106) 169
  and priest, (8) 1901—ab
  and sanitation, (117) 869
  and school advice, (144) 1188
  as citizen, (41) 946
  as political factor, (56) 1465
  as public educator, (7) 530—ab
  as teacher, (102) 534
  attitude of, to tuberculous patient, (116) 78—ab
  country, nostrum and proprietary medicine problem from standpoint of, (72) 709
  country, relations of, with metropolitan institutions and specialists, (1) 1031
  Dante, (21) 1278, (18) 1372, (18, 23) 1462, (22) 1550
  in court, (26) 790
  malpractice from, standpoint of, (138) 1820
  mission of, (127) 534—ab
  old-time, (115) 1819
  relation of, to administration of justice, (20) 866
  relation of, to mental healing systems and methods, (96) 710—ab
  responsibility of, for future of child with adenoids and impaired hearing, (42) 1374—ab
  tracheal tube with device to protect him against coughed out material, (74) 1287
Physician, role of, in producing or maintaining imaginary maladies, (47) 1374—ab
  vacation of, (5) 530
  what manufacturing druggist does for, (75) 1904
  when shall he distrust his own judgment in surgery, (62) 868-ab
  wife of, (97) 1466
Physicians and public affairs, (67) 710—ab
  are they justified in taking pay from manufacturing chemists for scientific tests of pharmaceutic preparations? (65) 1648—ab, (105) 2011—ab
  Dickens' and things medical, (80) 2189
  in Colorado for tuberculosis, (115) 1644
  must be sociologists, (76) 1732—ab
  need of more intimate knowledge of U. S. Pharmacopeia and National Formulary among, *2018
  of Samuel Johnson and his court, (145) 78
  of to-day and to-morrow, (94) 1733—ab
  overproduction of, (69) 1185—ab
  responsibility of, for use of nostrums, *2022
  should they dispense? (80) 533
Physico-chemical properties, chemical constitution and pharmacodynamic action, (85) 799
Physics, what subjects can be practically included in year's work in? (19) 707
Physiologic actions, temperature coefficient of velocities of, (49) 1108
  assay of nitroglycerin tablets, digitalin tablets and fluidextract of ergot, *2130
Physiology and chemical pathology of pancreas in pancreatitis, (21) 2234—ab
  and pathology of emotions: physical basis of mental etiology, (8) 865
  and pathology of gastric secretions, (28) 2089
  and pathology of play of pupils, (62) 954
  and pathologic physiology of arrest of postpartum hemorrhage, (82) 447—ab
  comparative, of invertebrate heart, (51) 1108
  of circulation, practical aspects of, (37) 440
  of digestive system, (73) 2004—ab
  of heart contractions, (71) 539—ab
  of pulsating blood vessels in worms, (51) 1108
  of purin metabolism, (24) 1038
  of respiratory organs, (96) 1560—ab
  pathologic, importance of proteolytic leucocyte ferment in, (96) 2099—ab
  relation of, to physics and chemistry, (9) 1283
  study of by general practitioner, (161) 78
  when should it be taught at college, (78) 76
Physiotherapeutics in chronic diseases, (67) 76
  in rheumatism, (100) 77
Physique, national and military service, (8) 1111
Physostigmin and curara, action of, on muscles, (44) 1817
Pia arachnoid, osseous plaques of, and pain in acromegaly, (91) 1376—ab
  mater, glioma of brain involving, (7) 2185
Picric acid in trachoma, (142) 268
Pigment, biliary, determination of, and its clinical importance, (122) 359
Pigmentation, after prolonged administration of silver preparations, (125) 634
  local, in tuberculosis, 399—ab
Pilocarpin in strychnin poisoning, (129) 793
Pin imbedded in vein 4 years, *1509
Pipettes, simple and efficient device for filling and emptying, *756
Piroplasma bovis and piroplasma pitheci in circulating blood, mode of multiplication of, compared with that of piroplasma canis, (47) 1039
  canis, morphology and life history of, (42) 1038—ab
  pitheci and piroplasma bovis in circulating blood compared with that of piroplasma canis, mode of multiplication of, (47) 1039
v. Pirquet's Cutaneous Reaction: See Tuberculin Skin Reaction.
Pituitary and suprarenal bodies, inhibition of pancreatic activity by, extracts of, (38) 1463—ab
  body, active principle of, and diuretic action of adrenalin, *1849
  body, changes in, after removal of thyroid, (18) 1111
  body, probable tumor of, with optic atrophy following premature menopause (179) 171
  extracts, inhibition of pancreatic activity by, (43) 2002
Pityriasis rubra, diagnosis and treatment of, (125) 1043—ab
  versicolor, tropical forms of, (116) 1188
Placenta and membranes involved in fetal ichthyosis, (37) 1816
  blood, negative results of injections of, in carcinoma, (54) 797
  formation of, (62) 1738
  function of, (95) 2011—ab
  juice, isolated surviving dog kidneys flushed with, (136) 359
  normally implanted, intrauterine hemorrhage during pregnancy and from premature separation of, (50) 1551
  normally located, prolapse of, (110) 359
  normally situated, premature detachment of, *1845
  prævia, air embolism with (123) 1561—ab
  prævia, danger with, of natural straining to aid delivery, and extraperitoneal selection of uterus as means to reduce it, (112) 1651—ab
  prævia, metreurynter for, (101) 632-ab
  prævia, treatment of, (21) 531 (59) 2193—ab
  prævia, version with, advantages of water bag over, (122) 1827—ab
  premature separation of, cause of, (16) 73—ab, (18) 1815
  syncytioma or chorioepithelioma of, (29) 167—ab
  syphilitic, spirochæta pallida in, (82) 2004—ab
  toxicology of, (55) 1647—ab
  transmission of B. typhosus in, (52) 532—ab
  triplet pregnancy and site of, (91) 956
  tumor, (56) 1113
  weight of, in relation to new-born child, (114) 78—ab
Plague, (122) 1644
  are domestic animals of India affected by? (25) 628
  bacilli, how flea clears itself of, (28) 628—ab
  bacillus, differential diagnosis of, (30) 628
  bacillus, preservation of, in body of bedbug, (51) 445
  bacteriology and pathology of, (68) 1818
  early diagnosis of, (32) 1555—ab
  great black, (117) 1037
  how it is spreading in Venezuela and Trinidad, (17) 706
  human, septicemia in, experiments on infectivity of excreta, (26) 628—ab
  in Algeria and Tunis in 1907, (60) 1469—ab
  in California and antiplague campaign, *1010
  insects in epidemiology of, (24) 628—ab
  measures against, underlying principles of, (70) 1185
  mode of spread and prevention of, (1) 944, (45) 1112
  preventers, cats as, (8) 1820—ab
  prophylaxis at Rio de Janeiro (32) 2094
  seasonal prevalence of, in India, (29) 628
  spots, municipal, duty of city toward (65) 76
Plants and health of man, chemistry and effects of bituminous coal smoke on, (8) 1815—ab
  dermatitis from, (137) 85
Plaques, osseous, of pia arachnoid and pain in acromegaly, (91) 1376—ab
Plasma cells and endometritis, importance of, in inflammation, (132) 359
  individual, (9) 710
Plaster-of-Paris in surgery, (170) 950
  jacket, sling for application of, (112) 1819
Plessimeter and percussion hammer for threshold percussion of heart, (89) 876
Plethysmogram, absolute, (100) 1289—ab
Pleura and lung, reactions of surface of, (67) 82
  attempt to prevent adhesion of, after inflammation, (9) 1644—ab
Pleura, endothelioma of, (3) 2000 (77) 1381
  primary tumor of, (121) 634
  sound, treatment of operative pneumothorax in, (46) 2192—ab
Pleural cavities, drainage of, double empyema with, (29) 1462
  cavity, diagnosis of pus in, (115) 2026
  reflexes, (28) 1107
Pleurisy and pulmonary tuberculosis, (9) 166
  paravertebral area of dulness in, (98) 1472—ab
  traumatic pulsating, (30) 623
Pleuritic effusions, pressure in, (69) 174—ab
Pleuropneumonia, acute leucocytic, with extensive fibrinous plugs visible to naked eye in enlarged lymphatics, (24) 536
Plexus, brachial, paralysis of, and involvement of sympathetic, unilateral paresis of diaphragm from, (77) 1381
  solar, pathologic anataomy of, in consumptives, (49) 538
Pneumatic cabinet, affections in which it is indicated, (86) 265—ab
Pneumaturia, intermittent, for 3 years, stone in bladder with, and subsequent formation of fecal fistula, (111) 260—ab
Pneumococci phagocytability of, in sputum in pneumonia, (27) 256
Pneumococcus arthritis, (77) 2091
  cultures and antiserum, injection of, for corneal ulcers, (101) 541
  in blood in pulmonary tuberculosis, (60) 1823—ab
  infection and mixed streptococcus of orbit and adjacent sinuses, (111) 1905—ab
  infection, opsonins and antiphagins in, (62) 1039
  infection, parotitis from, (130) 178—ab
  meningitis as direct result of severe trauma of skull five years before, (101) 1826
  peritonitis due to, (29) 1190
  peritonitis due to, in children, (36) 1467
  serum, Römer's in croupous pneumonia, (89) 1740
  serum treatment of infecting corneal ulcer, (92) 1115
  stomach affection, (80) 875—ab
Pneumonia, (35) 1185, (149) 1188, (119) 1466
  abortive, (117) 1289
  acute, striæ atrophicæ as sequel of, (23) 1190—ab
  and influenza, relation of anticyclonic weather to prevalence of, on northern hemisphere, *660
  brief, (91) 1740
  croupous, leucocytes with Sudan-staining granules in, (98) 956
  croupous, meningism and meningoencephalitis in, (105) 1473—ab
  croupous, recurrences of, (110) 1561—ab
  croupous, Römer's pneumococcus serum in, (89) 1740, (107) 1826
  croupous, serumtherapy of, (118) 2196
  croupous, vocal fremitus in, (97) 1559
  diagnostic importance of composition of urine in, (109) 877—ab
  digitalis in, *2214
  double septic, and double empyema, case with, (29) 1462
  embolic tuberculous, following massage of tuberculous glands in neck, (90) 1559
  epidemic, (117) 1914
  gangrene of extremities after, (20) 952—ab
  in childhood, (63) 168, (26) 872—ab, (12) 951
  in infancy, diagnosis of, *285
  in infants, ambulatory treatment of, *286
  infection, and prophylaxis by cytocera (118) 1560
  influenzal, and influenza, (23) 1816—ab
  lobar, and bronchopneumonia, symptomatology and diagnosis of, in children, (46) 623
  lobar, diagnostic value of sense of weight in affected side, (24) 2186—ab
  lobar, pathology and treatment of, (45) 946
  lobar, uncomplicated, treatment of, (37) 2191
  metabolism of salt in, (70) 446—ab
  plus yellow atrophy of liver in girl of 10, (100) 266
  on Isthmus of Panama, (10) 1371—ab

Pneumonia, specific skin eruption in, (16) 2190—ab
  sputum, bilirubin content of, (113) 717
  sputum, pneumococci in, phagocytability of, (27) 256
  treated by continuous inhalation of oxygen, (21) 712—ab
  treatment of, (90) 77, (21) 790—ab, (120) 1111
  types of, with inflammation of adenoids, (7) 1276
Pneumonokoniosis, etiology and prevention of, (17) 1038
Pneumohemothorax, rupture of lung, and fracture of ribs, (34) 1378
Pneumopleuritis followed by pulmonary abscess, (61) 1642
Pneumothorax, (78) 869—ab, (32) 1378
  artificially induced, influence of, on tuberculous lung, (66) 1558—ab, (47) 2095, (85) 2098)—ab
  artificially induced, indications and results, (42) 2095
  chronic, (124) 2197
  operative, treatment of, in sound pleura, (46) 2192—ab
  traumatic, *1971
  value of Sauerbruch negative pressure procedure in prevention of, *808
Podophyllin and calomel habit, (122) 793
Poehl's principles and preparations, (122) 1290
Poison, nerve, specific, negative food value of alcohol and its action as, (118) 634
Poisoning, alcoholic and metallic, causing neuroses, (186) 951
  and abortion by yew, (109) 1741—ab
  apomorphin, and relations between retching and paralysis of muscles, (83) 1381—ab
  atoxyl, pathology of, (67) 1193—ab
  belladonna, *1696
  bi-nitrobenzin, chronic, (8) 1189
  bismuth, (4) 2234
  bismuth, fatal, (116) 2012—ab
  chloroform, (76) 1642
  cantharides, acute, (8) 1282
  from fishberries used as abortifacient, (101) 2099
  homatropin, by instillation, (100) 442
  hydrazine pathologic anatomy of, (151) 870
  industrial phospho-oxychlorid gas, (101) 1289
  lead, cause of, in tinning metals, (27) 2191—ab
  lead, curiosities of, (126) 442
  lead, diagnosis and prophylaxis of, (139) 267
  meat, (65) 954—ab
  mercury bichlorid, pericarditis in course of, (65) 1039—ab
  morphin, industrial, (88) 2010—ab
  nitrite, from bismuth subnitrate, (73) 1558
  oxalic acid, (71) 1738
  phosphorus, (102) 83, (137) 1474
  resorcin, from external application, (102) 358—ab
  tea and coffee, (46) 349
  veronal, acute, symptomatology, prognosis and therapy of, (87) 265—ab
Poisons, various bacterial, behavior of human skin in response to, (128) 359
Police power of state, sanitary power as, (52) 2188
Polioencephalitis, infantile, (52) 1552
  superior, with autopsy, (38) 256
  syphilitic, (36) 2094
Poliomyelitis, acute, epidemiology of, (40) 167—ab
  acute, following tonsillitis, (4) 1549
  anterior, (43) 2090—ab
  anterior, cerebrospinal fluid in, (153) 870
  anterior, acute, (22) 80, (4) 1183—ab, (85) 1643, (13) 706
  anterior, acute, in adult, (14) 706
  anterior, acute, disease of primary motor neurons causing clinical picture of, result of poisoning by potassium cyanid, (71) 792
  early orthopedic treatment in, necessity for, (119) 1553—ab
  in infancy, muscular dystrophy following, (116) 949
Pollinosis or hay fever, (157) 950
Polyarthritis, recurring tuberculous, (112) 800—ab
Polyclinic, 500 B. C., represented on Greek vase, (72) 82
Polycythemia, *1230, (122) 1652—ab
  and blood pressure, (80) 2009—ab
  with cyanosis, *1777
  with and without enlargement of spleen, (93) 632
Polygraph, inky, (12) 172
Polymyositis, acute, (105) 1289
Polyneuritis, generalized, cases of, *28
Polyp formation, rhinedema with, (118) 1037
  secretion in extensive polyposis of colon and rectum and action of purgative, (97) 1041
Polyposis of colon and rectum, extensive, fermentative power of polypus secretion in, and action of purgative, (97) 1041
Polyps in stomach, (100) 448—ab
  multiple, of intestine, healing intussusception in, (35) 1640
Polyuria, essential, improved by abstinence from salt, (69) 82
Pons, hemorrhage into, renal changes in, with consequent high blood pressure, (51) 1468
Poor-law medical service, reformed, voluntary hospital and, (10) 261
Poor of London, dental needs of, (16) 261
  of Rome, nervous affections among, (139) 718
Portwine marks and hypertrichosis, involving both sides of face, removed by x-rays, (38) 873
Portal vein, thrombosis in, (103) 266
Portio vaginalis, transplantation of epithelium of vagina to cure erosions in, (140) 1117
Porto Rico as a field for research in tropical medicine, (16) 166
Postgraduate instruction in pediatrics, need of, (43) 867—ab
  study in Berlin, (26) 866
  study in Europe, (110) 1466, (99) 2092
Potassium cyanid, biochemical and anatomic changes induced in dogs by, (11) 348
  cyanid, disease of primary motor neurons causing clinical picture of acute anterior poliomyelitis, result of, poisoning by, (71) 792
  iodid, action of, (167) 87
  iodid, effect of, on activity of ptyalin, (62) 350—ab
  iodid in suppuration in nasal accessory cavities, (74) 1558
  oxalate, neutral, in phlegmons, adenitis, and white swelling, (111) 2099—ab
Pott's-disease, (70) 441
  appliance for reducing hump in, (64) 446
Poverty and tuberculosis, (21) 2001
Practice, acquiring, (89) 710—ab
  contract, in Germany, (73) 1375
  general, importance of autopsies in, (55) 2090
  general, mental and nervous diseases in, (175) 171
  general, vaccines in, (4) 1466—ab
  general, vaginal Cesarean section in, (65) 264—ab
  medical, interrupted currents in, (15) 1283
  medical, tact in, (60) 168
Practitioner, country, the average, shall he testify before our juries as medical expert? (92) 1819—ab
  general, and deaf mutism, (36) 1736
  general, and x-ray treatment, (97) 540—ab
  general, artificial infant feeding for, (40) 1816
  general, attitude of, toward eyestrain, (24) 1278
  general, clinical examination of *urine and gastric juice by*, (5) 1734
  general, clinical types of eclampsia as viewed by specialist for benefit of, (37) 349
  general, his need of bacteriology, (123) 793
  general, immediate treatment of serious ocular conditions frequently first seen by, (2) 789—ab
  general, necessity of his knowing when an operation should be done, and of surgeon being conservative as to operation, (131) 1820
  general, obstetrical work from standpoint of, (40) 1108
  general, rise of, (17) 2006
  general, study of blood by, (98) 1382
  general, study of pediatrics by, (99) 949
  general, study of physiology by, (161) 78
  general, treatment of acute appendicitis by, (4) 1734
  general, treatment of negligent speech by, (7) 789
  general, use of laboratory methods by, (104) 169—ab, (120) 534
Practitioners, Bier's method for, (15) 795
  general, ophthalmology for, *1833
Pragmatism and medicine, (113) 626
Precancerous morbid states, (141) 797—ab
Precipitin reaction in syphilis and *general paralysis*, (72) 356
Predisposition, constitutional of lymphatics, to disease, (107) 177—ab
  hereditary, *1221
Pregnancies, multiple, in double uteri, (50) 2002
Pregnancy, abdominal, (112) 359, (115) 1117, (124) 1377, (65) 1903, (129) 1906—ab
  abdominal secondary, with living child at term, (145) 263
  abdominal ectopic, of seventeen months' duration, (128) 1906
  affections of optic nerve in, (101) 877—ab
  albuminuria and eclampsia, parathyroid treatment of, (119) 1651—ab
  albuminuria in, (53) 867
  amaurosis in, (118) 177—ab
  and appendicitis, (97) 358, *1310, (39) 2237
  and childbirth, and axial torsion *of large intestine, (116) 1117*
  and childbirth with congenital mitral stenosis, (30) 712—ab
  and diabetes, (63) 1113—ab
  and early infancy, syphilis in, (51) 1279
  and gonorrhea, (133) 442
  and heart disease, (43) 1279—ab
  and labor complicated by rectal cancer, (42) 1284
  and labor following ventrosuspension of uterus for retrodisplacements, (39) 707—ab
  and labor, surgical necessities during, (91) 625—ab
  and larynx, (92) 716—ab
  and ovulation, forensic aspects of, (78) 1558
  and *pernicious anemia*, (38) 623—ab
  and puerperium, appendicitis in, *(62)* 630
  and puerperium, prognostic value of nuclear count in, (49) 867—ab
  and puerperium, sudden death during, (155) 1037
  at nine years of age, (48) 440
  autotoxemia of, (61) 2091
  causes of peritonitis during, (13) 443
  chorea during, (39) 265—ab
  complicated by malformation of vagina and uterus, (93) 1643
  complicated by tuberculosis, (23) 439, (18) 622
  complicated by uterine cancer, (90) 1825
  complicated by uterine fibromata in a hemiplegic, (134) 442
  complicating thrombosis of superior longitudinal and lateral sinuses, *997
  computation of conception, menstruation and duration of, (108) 1041
  concealed hemorrhage in, contrasted with extrauterine pregnancy, (30) 1107
  conservatism in surgery of uterine adnexa for preservation of possibility of, (66) 1465—ab
  dermoid cyst removed without interrupting, (27) 1372
  duration of, (74) 82, (61) 2192
  extrauterine, (21, 26) 167, (59) 168—ab, (112) 359, (117) 534, (32, 33, 34, 37) 623, (36) 623—ab, *840, (153) 1037, (73) 1109, (115) 1117, (39) 1284—ab, (116, 124) 1377, (15) 1729—ab, (65) 1903, (128, 129) 1906—ab, (66) 2003, (20) 2089, (95) 2195—ab, (19) 2236—ab
  extrauterine and early abortion, differentiatial diagnosis, (32) 2186
  extrauterine, and hypoplasia of tubes, (138) 2198
  extrauterine, at term, (54) 532
  extrauterine, at term, with healthy *child, (145) 268, (29) 712—ab*
  extrauterine, beyond full term, (33) 1462
  extrauterine, can operation be done for, during shock? (73) 2009—ab
  extrauterine, concealed hemorrhage in pregnancy contrasted with, (30) 1107
  extrauterine, dealt with by abdominal section without death, 35 cases of, (5) 1038
  extrauterine, *diagnosis of, (79)* 1552
  extrauterine, early, anatomy and histology of, (39) 1284—ab
  extrauterine, early diagnosis of, (59) 168—ab, (79) 351—ab, (55) 532, (63) 792
  extrauterine, immediate vs. delayed operation for, (38) 707—ab
Pregnancy, extrauterine, intra-abdominal hemorrhage due to deferred operation for, (47) 707—ab
  extrauterine, intra-abdominal hemorrhage due to, time to operate in, (35) 623—ab, (46) 707—ab, (32, 33, 34, 37) 623 (31) 2002—ab
  extrauterine, on goldfields, (12) 1189
  extrauterine, procedure suitable for cases of in which fetus in living, (57) 1375
  extrauterine, terminated, treatment of, (92) 169—ab
  extrauterine, treatment of early cases of, (97) 949
  extrauterine, when shall we operate? *1767
  eye complications of, *204, (101) 877—ab
  heart disease and tuberculosis in relation to, (79)—2091
  hemorrhages of, (134) 1282
  histologic pecularities of vagina and bladder during, (113) 1117
  inflammation in and around cervix *uteri in, (95) 1195—ab*
  intrauterine and coincident tubal, (15) 1729—ab
  intrauterine hemorrhage during, and from premature separation of normally implanted placenta, (50) 1551
  labor and puerperium, fibroids complicating, (74) 258
  labor and puerperium, kidney disease during, (101) 1281—ab
  laparotomies during, (58) 1375
  multiple fibromas of skin in, (99) 1826
  necrosis of myomata during, (78) 1470
  nephritis of, suprarenal capsules in, (51) 81—ab
  normal, *dropsy, and kidney of* pregnancy, and pathogenesis of eclampsia, (52) 1647—ab
  ovarian, (26) 167
  ovarian, terminating in formation of lithopedion, (64) 1113
  ovarian tumors complicating, (90) 169—ab
  ovariotomy during, (38) 1646—ab, (35) 1817—ab
  parturition and puerperium after ventrofixation, (3) 1553—ab
  plea for more painstaking supervision of, (109) 1905—ab
  protracted decalcification of, (52) 81—ab
  psychoses of, (101) 1382—ab
  pyelitis in, (51) 532, (185) 951, (26) 1190, (126) 1632
  pyonephrosis and renal calculi in, induced labor, nephrectomy, (18) 1639
  renal cortex in, infarction of, (34) 1816—ab
  ruptured, hemorrhage following section of uterine and ovarian vessels in dogs and its possible bearing on, (31) 1816—ab
  simultaneous full term in each half of double uterus, (50) 2002
  symphyseotomy during, (49) 1646—ab
  tetany, *experimental* and clinical study of, (113) 877—ab
  toxemia of, (182) 171, (40) 1284—ab (62) 1552, (58) 1818—ab, (30) 2006, (61) 2091
  toxemia of, functions and relations of *syncytium to*, (50) 947—ab
  toxemic pernicious vomiting of, with total nitrogen and ammonia estimations, (32) 1107
  toxemia of, relative severity of different forms of, and its bearing on treatment, (36) 1902
  triplet, with special regard to site of placenta, (91) 956
  tubal and coincident intrauterine, (15) 1729
  tubal, early, anatomy and histology of, (39) 1284—ab
  tubal, etiology, diagnosis and treatment of, (95) 2195—ab
  tubal, intra-abdominal hemorrhage due to, immediate vs. *deferred* operation for, (32, 33, 34 and 37) [illegible] (31) 2002—ab
  tubal, ruptured when shall we operate? *1767
  tubal, treatment of, after rupture *or abortion*, (19) 2236—ab
  Vincent's angina during, (36) 1816
  vomiting, during, (6) 1638
  vomiting of, etiology and treatment, (71) 714—ab
  vomiting of, successfully treated by suggestion, (141) 86—ab
  vomiting of, uncontrollable, (51) 1380—ab
Prescribing, pharmacopeia as standard for, *2013

Prescriptions, simplicity in, *9[illegible]2
  versus dispensing (7[illegible], 7[illegible]) 17[illegible]2
Prescription mechanical, (92) 17[illegible]
  original vs. original bottle (6[illegible]) 1[illegible]3
Presentation facial, high transverse, [illegible] forceps for, (125) 207
Presentation transverse, management of (40) [illegible]7—ab
  transverse prophylaxis of (78) 447
Pressure in pleuritic effusion, (6[illegible]) 174—ab
  intraspinal monometric estimation of, 1[illegible]
  method of regulating in Bier treatment (10) 255—ab
  method positive, of artificial respiration *[illegible]0
  positive artificial intrapulmonary, *[illegible]0[illegible]
  procedure Sauerbruch negative in the prevention of pneumothorax, *[illegible]08
Prevention rather than cure (4) 1900
Priest and physician relations of, (8) 1901—ab
Primates hard palate and maxilla in, (20) 1111
Prison mentally defective in (16) 354—ab
Probing new laryngeal (82) 625
Procedentia Uteri See Uterus
Proctitis sphincteric (68) 575—ab
Profession and public (75) 351
  and public, cooperation of the, (112) 442
  medical then, now and hereafter, (77) [illegible]51
  what it may do in matters of state, (118) 170—ab
Professions why do young men crowd into them? (22) 167
Profeta's law and Colles' law in light of modern serum research, (118) 1[illegible]9[illegible]
Prognosis and bacteriology (96) [illegible]3
Progress peace work opportunity for (43) 946
Prolapse and hemorrhoids inflatable pessaries for, (96) 205
  genital uterus in plastic operations for (73) 1039
Prophylaxis vs. treatment (4) 1900
Proprietary disadvantages in prescribing (57) 1465
  prescribing of especially mixtures *9[illegible]9
  vs. U. S. Pharmacopeia and National Formulary preparations, (46) 118[illegible]
Proprietary problem final disposition of, *[illegible]57
  right *140
Prostate and bladder, cysts near, (83) 14[illegible]1—ab
  and testicle gout of (94) 265
  as factor in nervous disease (21) 20[illegible]—ab
  hypertrophied, (64) 624 (112) 793—ab
  hypertrophied comparative value of measures for relief of (45) 1033
  hypertrophied retention catheterization in (1[illegible]) 87—ab
  hypertrophied treatment of (110) 10[illegible] (58) 797
  infection of, (157) 78
  inflamed or seminal vesicle determination of gonorrheal infection in (47) 1108—ab
  or bladder, advanced cancer of value of bilateral ureterostomy in (10) 443—ab
  physiologic importance of the (51) 20[illegible]6
  prognosis of obstruction of after operation (118) 94[illegible]—ab
  stretching ([illegible]) 713—ab
  surgery of (46) 1034 (2) 181[illegible]—ab
  surgical (127) 793
Prostatectomist yeoman, confessions of (11) 706—ab
Prostatectomy and bladder stone (70) [illegible]
  at two sittings under local anesthesia (115) 84—ab
  by combined routes (15) 1554
  calculi formation after, (94) 2002
  device for prolonged irrigation and drainage of bladder after, (80) 948—ab
  improved technic for (79) 63[illegible]—ab
  perineal preceded by suprapubic cystostomy in septic case, (12[illegible]) 178—ab
  suprapubic, (22) 261
  suprapubic new and rapid method of perineal drainage in *[illegible]57
Prostatic can aged be prevented? (10[illegible]) 1110
Prostatic disease in diabetic, (66) 2[illegible]—ab
  renal conservation in treatment of, (1[illegible]) [illegible]6—ab
Prostatic obstruction, permanent suprapubic drainage for relief of, (112) 12[illegible]2—ab
Prostatitis chronic, (96) 1[illegible]72
  chronic pathology and treatment of (60) 2005
  chronic, treatment of, (1[illegible]1) 5[illegible]1
  simple chronic and tuberculous symptomatology, diagnosis and treatment of (19) 11[illegible]0
  tuberculous symptomology, diagnosis and treatment of, (8[illegible]) [illegible]48
Prostitution, (16) 706—ab, (57) 1903—ab
Protargol injection in lachrymal sac, blindness following, (101) 1[illegible]2
Protection against substitution *[illegible]0
Proteid diet, exclusive, value of, in digestive disorders (20) 2006
  digestion and alkaloids, (115) 532
  metabolism, (75) 7[illegible]
Protein catabolism, influence of internal hemorrhage on, (20) 1033
Proteins, bacterial, anaphylaxis induced by, *836
Protoplasm effect of alcohol on, (176) 171, (89) 1166
Protozoal diseases in man, (56) 1039
Provident system and general hospitals, (11) 261
Psammoma like growths in wall of meningocele, (102) 1913
Pseudarthrosis, congenital, of leg, treatment, (116) 84
  following gunshot wounds, treatment, (60) 335
Pseudocholesteatoma, exostosis and artificial drum membrane in adults, (67) 792
Pseudofractures of sesamoid bones of first metatarsophalangeal joint, (67) 798
Pseudoleukemia, (128) 1111
  a type of sarcoma (136) 35[illegible]—ab
Pseudomyxoma, peritoneal, (93) 1904
Pseudophosphaturia as sign of debility, (117) 1651—ab
Pseudotabes and tabes, diagnosis of, (115) 949
Psoas magnus, psoas parvus and iliacus tenotomy of in spastic spinal paralysis in adult, (103) 1526—ab
Psoriasis (50) [illegible]
Psychiaters and psychiatry of Augustan era (7[illegible]) 17[illegible]2
Psychiatric diagnosis lumbar puncture in, (102) 1116
Psychiatry and neurology, French clinics in, (51) 1617
  and psychiaters of Augustan era, (74) 1732
  current, trend of, (109) 1187—ab
  lumbar puncture for differentiation in (63) 954
  modern, progress in, (64) 868, (140) 1232
  principles of, (13[illegible]) 178
  prognosis in, *108
Psychic disturbances in ovarian syndrome, (56) 2007—ab
  factor and surgical aspects of exophthalmic goiter, (100) 260—ab
  state pain as chief or sole expression of, (125) 442
  treatment, (91) 1110
  treatment of inebriates, (45) 349
  treatment of nervous disorders, (105) 442
Psychical end results following major surgical operations, (99) 259—ab
Psychologic medicine, school life from point of view of, (21) 1377
  tests made on tuberculous patients, (3) 1371—ab
Psychology of neurasthenia and hysteria (24) 1377—ab
  of success, (1) 710
Psychoses, alcoholic (1) 1638—ab
  and internal secretions, (51) 873
  functional, hypnoidization in, (42) 2187
  in children, (105) 84—ab
  of pregnancy, (101) 1382—ab
  recoverable, prognosis in, (54) 624—ab
  tardy recovery from, (162) 1476—ab
Psychosis Korsakoff's, (76) 258, (146) 442
Psychotherapy *37, (10[illegible]) 169—ab, (36) 256 (76) 533 *368, (16) 531, (135) 534 (91, 92) 949, (10) 11[illegible]3 (60) 1035 (141) 1252, (81) 1376—ab (78) 2004
  bottled studies in, *52
  desirability of instruction in, in medical schools and its introduction at Tufts, (2) 1549
Ptoses visceral, and movable kidney, corset for *1568
Ptosis, simplification of De Grandmont's operation for, ([illegible]4) 2004
  treatment of (79) 62[illegible]
Ptyalin activity of effect of potassium iodid on, (62) 350—ab
Pubic arch, impaction of, in bladder fractures of pelvis and femur and trauma of kidney, (87) 948—ab
  bone and symphysis, resection of, for giant tumors of pelvis, (65) 2193
Pubiotomy, (90) 83—ab, (65) 5[illegible]8
  and induction of premature delivery in the home, (70) 264—ab
  indications and prognosis for, (18) 2[illegible]—ab
  indications for, (126) 267, (134) 21[illegible]5
  justifiability of, (25) 1033—ab
  technic and results of, (186) 87
  vs. symphyseotomy, (46) 15[illegible]
Public affairs and physicians, (67) 710—ab
  and medical profession, (75) 351, (112) 442, (61) 709—ab, (146) 870, (68) 1185, (4) 1461—ab
  assembly rooms, halls and churches, sanitary construction and furnishing of, (151) 1188
  health acts amendment in Great Britain lodging houses under, (15) 1111
  health and home, address on venereal disease and sex to women of state of Texas in interest of, (82) 1281
  health and pathology, coordination in (10) 1111
  health and poor law medical services, (29) 1112
  health, education and legislation, (90) 710—ab
  health laws in Illinois, (84) 1036—ab
  health national department of and antituberculosis problem, (20) 14[illegible]—ab
  health work and medical profession, (131) 170
  medical education of (70) 1280—ab
  surgical rights of, (1) 864—ab (79) 1375—ab
  what it should know concerning venereal diseases, (166) 171
Puerpera, transmission of infection from, to child (95) 632—ab
Puerperal affections importance for prognosis of formed elements of blood in, (75) 82—ab
  infection, (62) 709 (92) 2004
  infection blood findings in, (48) 1113 (111) 1473—ab
  infection, collargol in, (48) 81
  infection importance of hemolytic streptococci in (59) 1113—ab
  infection, operative treatment of, (21) 2093—ab, (25) 2094—ab
  infection prevention of, (112) 1473—ab (73) 1465
  infection, prognosis and treatment, (86) 2010—ab
  infection, serum treatment of, (149) 86
  infection, treatment of, (73) 1465
  infection, treatment of, by fixation abscesses, (17) 2235—ab
  infection, treatment of, with continuous current of oxygen, (42) 1821—ab
  inflammation of cervix, acute secondary rigidity of external os from, (37) 354—ab
  pyemia cured by ligation of pelvic veins, (124) 267—ab
  sepsis treatment of (22) 2094—ab
Puerperium and pregnancy, appendicitis in, (62) 630
  and pregnancy, prognostic value of nuclear count in, (49) 867—ab
  and pregnancy sudden death during (155) 1037
  excretion of creatinin during, (38) 263—ab
  fever in (104) 1037—ab, (32) 1038
  first two weeks of, quantity and quality of breast milk during, *1209
  labor and pregnancy, fibroids complicating, (74) 258
  labor and pregnancy, kidney disease during, (101) 1251—ab
  parturition and pregnancy after ventrofixation, (3) 1553—ab
  normal management of, (15[illegible]) 78
  ovarian tumors complicating, (90) 109—ab
  pyelonephritis complicating, (55) 708
  suppurative meningitis in, (56) 446
  treatment of, (61) 791
Pulmonary area, murmurs in, (98) 541
Pulse, dicrotic direction of wave, (144) 1475
  dicrotic, with aortic insufficiency, (148) 1473
  in peritonitis and ileus (130) 267
  irregular, (88) 1559
  irregular, electrocardiogram of, (89) 1559
Pulse, jugular, (30) 4[illegible]—ab
  normal venous, (9) 2093
  origin and significance of protosystolic wave of, in jugular veins, (10) 355
  permanent slow, pathogenesis of, (15) 161[illegible]—ab
  pressure as index of systolic output (154) 870
  radial disappearance of the during pressure on the eyeball (113) 2011
  rate, slow, in acute parotitis (125) 450—ab
  tracings turgosphygmographic, clinical importance of, (56) 174
  venous characteristics of, in hypertrophy of left heart with kidney heart and aortic insufficiency, (51) 174—ab
Pump, faucet vacuum, in medicine, (74) 1470
Puncture, exploratory, of drum membrane in certain diseases of middle ear, (125) 1820
  of brain, (5) 18[illegible]0—ab
Punishment corporal, in schools, from neurologic standpoint, (89) 1115
Pupil in extraocular disease (50) 1517
  poetic, prosaic, (120) 1644
  suggestions of in general disease, (38) 1902—ab
Pupils in general paralysis diagnostic importance of inequality of, (39) 953
  subnormal and mentally deficient, physical defects of school children causing, (76) 625—ab
Purgation and use of cathartics (40) 1185
Purgative, observation action of and fermentative power of polypus secretion in case of extensive polyposis of colon and rectum, (97) 1041
Purin metabolism, physiology of (24) 1038
Purpura gangrenous in eight months' infant ([illegible]0) 173
  hemorrhagic following contusion of kidney region, (5[illegible]) 1112
  hemorrhagica malaria as cause of, (61) 2003—ab
  Henoch's and angioneurotic edema, (28) 261
  Henoch's, and intussusception (44) 1284
Pus diagnosis of, in pleural cavity, (115) 6[illegible]6
  increase of specific gravity of in acute suppurative otitis media as indication for opening mastoid and errors in Hammerschlag's method (139) 1906
  tuberculous differentiation of, with Millon's reagent (99) 1650
  tubes treatment of (23) 1107—ab
Putrefaction intestinal and toxicity of urine and stools in infants fed on foods rich in albumin (152) 3[illegible]0—ab
Pyelitis and menstruation (81) 875—ab
  in pregnancy (185) 951, (26) 1190 (120) 1652
  pathology and treatment of, ([illegible]0) 17[illegible]—ab
Pyelonephritis clinical and bacteriologic study of, (11[illegible]) [illegible]69
  complicating puerperium (55) 708
  suppurative *1073
Pyemia and general sepsis, treatment of, (93) 799
  and otitic sinus thrombosis, (92) 1552
  puerperal, cured by ligation of pelvic veins, (124) 267—ab
Pylorus and fundus of human stomach, behavior of pepsin and lab in and relations between action of pepsin and concentration of acid, (99) 1041
  cancer, early about, (110) 949
  cancer of, gastrectomy, gastrojejunostomy, no recurrence (110) 949
  cicatricial obstruction of, fibrolysin in, (3) 1111
  normal palpation of, (83) 356—ab
  permeability of, new method of estimating (10) 73—ab
  spasm of and congenital hypertrophic stenosis, in infancy, (4[illegible]) 708—ab
  stenosis and insufficiency of, (75) 175
  stenosis of benign, simulating gall stone affections, (65) 1114
  stenosis of, congenital hypertrophic (59) 81—ab
  stenosis of, congenital hypertrophic treated medically, (8) 103[illegible]
  stenosis of, congenital in adult (10) 535—ab

Pylorus, stenosis of, congenital, cause *of chronic stomach disease in adult,* (11) 535—ab
  stenosis of, gastric crises simulating (67) 264
  stenosis of, hypertrophic, in infants, (137) 353—ab, (44) 445, (59) 532—ab, (2) 705, (129) 1734
  stenosis of, in infancy, (2) 705, (59) 532—ab, (49) 1279, (37) 1284—ab (73) 2091
  stenosis of, in infancy, diagnosis and internal *treatment,* (130) 2197—ab
  stenosis of, vs. Einhorn's achylia gastrica, (7) 1729
Pyocyanase in acute otitis media, (62) 1647
  in diphtheria, (122) 1042—ab, (91) 1288—ab, (81) 1649
  in diphtheria, scarlet fever and tonsillitis, (91) 1288—ab
  in infectious diseases, (97) 2194
  in ozena, (105) 1116
  are lipoids bactericidal elements of? (121) 1290
  lipoids in, (117) 266
Pyogenic processes, bacterial vaccines and, (82) 792—ab
Pyonephrosis and cerebral abscess, *756
  and renal calculi in pregnant woman, induced labor, nephrectomy, recovery, (18) 1639
  tuberculous, without outward manifestations, (72) 1114—ab
  vaginoureterostomy after nephrectomy for, due to sigmate constriction of ureter, (16) 1278
Pyopericardium in children under twelve, (11) 951—ab
Pyorrhea-alveolaris, acute, treated by *specific vaccine, (15)* 1038
  from tropical standpoint, (34) 2191
Pyrexia, anomalous, in children, (1) 1282—ab
Pyrimidins, researches on, (43) 1731
Pyuria, (68) 258
  and hemorrhages, cystic disease of kidneys with, (10) 2005
  renal, without apparent kidney lesion, (13) 438

Q

Quack, advertising, and newspaper, (59) 1818
  remedies made in Thuringia, (108) 358
Quackery and quacks, practical methods of dealing with, (69) 1109—ab
Quacks, (124) 1820
  and quackery, practical methods of dealing with, (69) 1109—ab
Quadruplets, birth of, *1869
Quarantine against yellow fever, (166) 1189
  of smallpox, *2151
Quebec, history of medicine in province of, from 1535 to 1838, (11) 530
Quebrachin, effects of on lungs, *1593
Queen's Maternity Home, Adelaide, first six years' work at, (27) 2006
Quinin administration by inunctions, (138) 870
  and urea hydrochlorid, in diagnosis and treatment of malaria, (25) 1530—ab
  anesthesia, painless tonsillectomy and adenectomy with, *496
  aspiration and injection of, treatment of abscess of liver by, (16) 1820
  in syphilis, (111) 84—ab
  intolerance, *treatment,* (129) 1562—ab
  intoxication from, (133) 267—ab
  large doses of, in dermatitis exfoliativa, (119) 1188—ab
  isotonic solution of, for intravenous injections, (74) 1040—ab
  prolonged use of small doses of, effects of, (120) 1914—ab
  pyretic phase in action of, (123) 178—ab
Quinsy, hemorrhage following, (151) 353

R

Rabbit, cornea of, inoculability of bacillus of soft chancre in, (113) 1914
  ear of, experimental hyperemia in stereptococcus infection in, (100) 1913—ab
  spontaneous arterial degeneration in, *1056
Rabbits and *guinea-pigs,* bactericidal action of extract of leucocytes of, (61) 1039
Rabbits, intravenous injections of adrenalin in, liver affections after, (87) 447
  involution of thymus in, (119) 800
  serum diagnosis of syphilis with antigens from, (120) 878—ab
Rabies, diagnosis of, (136) 1188
  preparation of serum, (3) 78—ab
  rabicidal *properties of human serum after antirabic treatment,* (3) 78—ab
  smear method as means of rapid *diagnosis of,* *288
Race problem—negro consumptives, (121) 793
  suicide and criminal abortion, moral aspects of, (88) 1819—ab
  suicide: Mothers' side of question, (21) 256
  suicide: quantity or quality, (20) 256
  and osteomalacia, and influence of suprarenals on bony skeleton, (7) 1377—ab
  and scoliosis, (65) 798—ab
  and suprarenal capsules, (134) 85—ab
  congenital and early acquired, (90) 632—ab
  dental erosions from, with lamellar cataract, *1130
  digestive disturbances in, (51) 2192—ab
  early, clinical research on, (94) 1288—ab
  etiology of, (12) 443—ab
  in ancient times, (131) 1474—ab
  and Mongolian spots in colored *children of Jamaica, (42)* 867—ab
Rachitis and osteomalacia, (94) 2189-ab
  tardy, (102) 511—ab
Radiation, homogeneous, in therapeutics, (60) *954*
Radioactivity and radium, (72) 1824
  of mineral waters, (131) 267, (97) 632
Radiography in colors, is it possible? (94) 1377—ab
  plastic, (63) 624—ab
  rapid, (14) 1822
Radiotherapy of cancer, biologic principles of, (84) 2010—ab
  of disfiguring affections, (71) 1193, —ab
Radium and radioactivity, (72) 1824
  bromid treatment of epithelioma, *894
  emanations, *therapeutics of,* (102) 632, (81) 1470
  in carcinoma of nasopharynx and sphenoid region, (89) 441
  therapeutic action of, (21) 1283—ab
  treatment of angioma, (37) 797—ab
  treatment of inoperable tumors, (74) 798
Radius, arrest of growth at lower end of, after separation of its *epiphysis, (43)* 791
  bicipital tuberosity of, avulsion of, (49) 1641—ab
  fracture of head and neck of, *(99)* 77—ab
  fracture of, in children, (126) 878
  fracture of neck of, (103) 1644
  malformation of, (80) 1287
  musculospiral paralysis due to dislocations of head of, (47) 1034—ab
  nailing of lower epiphysis of, *1329
Railroad companies, legal relations of railroad surgeons to, (89) 793
  practice, interesting cases in, (57) 1185
  sanitation, (51) 2188—ab
  surgery, conservative, (62) 1185
Railway spine, (84) 1904
Râle sounds, *artificially* induced, for teaching purposes, (71) 1380-ab
Râles and friction sounds, physical and clinical study of, (134) 634
Ranula and other diseases of salivary glandular system, *992
Rashes, exanthematous and erythematous, diagnosis of, (2) 1638
Rat bite disease, (92) 358, (60) 1552—ab
  destruction in Kamptee, (40) 1737
  destruction operations *in Punjab,* (43) 1112—ab
  extermination, experiments on, (26) 796
  leprosy, *1153
  poison, Liverpool virus, epidemic of enteritis caused by, (15) 2190
  white, reactive cell proliferation in, and its relation to genesis of transplantable tumors, (27) 2089
Rationalization in everyday life, (43) 2187—ab
Rats, arrest of growth in, by parathyroidectomy, (88) 632
Raynaud's-disease and exophthalmic goiter, (128) 178—ab
  erythromelalgia and allied conditions in relation to vascular diseases of *extremities, (39)* 1902—ab
  two cases, (19) 1107
Rays, chemical, promoters of life *and energy,* mode of action and therapeutic uses, (13) 1278
Reaction, agglutination value of, and of bacteriologic methods in diagnosis of glanders, (52) 2003—ab
  convergent, in reflex immobility of pupils, (56) 630—ab
  Glinsberg, modification of, (99) 956
  pancreatic, illustration of crystals of, (5) 2000
  precipitin for serum diagnosis of syphilis, (113) 266
  precipitin, in syphilis and general paralysis, (72) 356
  tuberculin, complement-binding tuberculosis *antibodies and* their connection with, (67) 630
Reactions, abnormal, to horse serum, in serotherapy of meningitis, (26) 2191—ab
  agglutination, (47) 1379
  neuromuscular, for industrial accident insurance, importance of graphic registration of, (70) 1039
  precipitate, with lecithin, sodium glycocholate, and sodium taurocholate, *and sodium taurocholate* for diagnosis of syphilis, (2) 1729
Reagent, Millon's differentiation of pus with, (99) 1650, (120) 2012
Reciprocity, state, in dental practice *licensing,* *563
Rectal dont's, (48) 257
Rectum: See also Proctitis
  and anus, primary melanotic sarcoma of, (22) 790—ab
  and anus, new bloodless method of amputating, *991
  and colon, fermentative power of polypus secretion in extensive polyposis of; action of purgative, (97) 1041
  and sigmoid, cancer of, surgical *treatment of, (27) 167—ab*
  and sigmoid, new position for diagnosis and treatment of disseases of, *1131
  and sigmoid, prolapse of, following hysterectomy, *1125
  apparatus for administering anesthesia by, (134) 793
  cancer of, (47) 440, (77) 948, (5) 1031, (14) 1106, (9) 1183, (4) 1276—ab
  cancer of, excision, (24) 1107—ab
  cancer of, high, in men, technic *for removal of, (91)* 1471
  cancer of, improved technic for radical cure of, (53) 1279
  cancer of, pregnancy and labor *complicated by, (42) 1284*
  cancer of, selection of method of operating in, (16) 1554
  cancer of, with anuria, (58) 2008—ab
  carcinoma of, comparative results of operative procedures, (94) 1110
  carcinoma of, excision of, by combined method, (39) 791—ab
  carcinoma of, value of "combined method" in, (155) 360—ab
  careful examination in diseases of, with proper instruments, (93) 1036—ab
  communication of, with prostatic urethra in case of imperforate anus, (89) 1376
  continuous irrigation of, (149) 870
  drainage through, of pelvic abscess, (139) 353—ab, (15) 711—ab
  examination and diagnosis of diseases of, (118) 1466
  excision of, for cicatricial stricture by combined method with preservation of sphincter, (119) 1282—ab
  gangrene of, apparently spontaneous, (57) 1380
  imperfect absorption of antitoxin from, (74) 955
  implantation of ureters into, for extroversion of bladder in woman, by modified Peter's operation, (9) 1820
  injection of silver salts in, in sepsis, *(79) 875*
  myoma of, (79) 82
  neuralgia of, (60) 947
  non-melanotic sarcoma of, (82) 176—ab
  operation by Rehn-Delorme technic for prolapse of, (109) 2099
  operation for absence of, (3) 1377
  rupture of, (77) 264—ab
  speculum for, (41) 1551
  traumatic prolapse of, (104) 358
Rectus, external, *isolated paralysis of,* with otitis media, (74) 539
Red-cross, American National, organization of, for war and its *relation to medical* departments of Army and Navy, (106) 1187
  in antituberculosis war, (11) 2088-ab
Red light and measles, (54) 873—ab
Reflex, Bechterew's flexion, of toe, (88) 1288
Reflexes in diagnosis, value of, (124) 1037—ab, (130) 1037
  in insane, (60) 624—ab
  visceral, diagnosis and treatment based on, (34) 256
Refraction, (116) 352
  errors of, and balance of eyes bearing on general health, (33) 349
  in Indians fresh from plains, *308
  subjective *branch of, improved* instrument to shorten, (102) 442
Refractory period and period of varying irritability in heart muscles, *(70)* 350—ab
Refrigerator, inexpensive home-made, *317
Regeneration of blood and importance of treatment of blood affections, (84) 955
Regimen, diabetic, (27) 1038
Regurgitation a symptom of gallstones, or of cholecystitis, (22) 1640
Reinhardt case concluded, *1144
Relapsing-fever, (70) 2008
  blood in, (125) 359
  pathologic anatomy of, (148) 86
Relaxation for strain of sacroiliac *joint, (125) 1734—ab*
Remedial measures other than drugs in cardiac disease, (85) 1376
Remedies, what, shall we use? (106) 1110
Reminiscences, (143) 870
Research defense society, work of, (5) 1906
Resection, plastic, to restore function to old amputation stump, (52) 1909—ab
Resonance, tympanitic and non-tympanitic percussion, graphic registration of, (96) 1041
Resorcin, external application of, *poisoning from,* (102) 358—ab
Respiration, artificial, (71) 356, *801, (20) 871, (19) 952
  artificial, apparatus for, when thorax has been opened, *(140) 2198-ab*
  artificial, injury to new-born infant by attempted, (48) 2002—ab
  artificial, positive pressure method of, *803, *805, *808
  in children, (29) 173
  in health and disease, mechanism of, (23) 1111
  in hemiplegia, (21) 795—ab
Respiratory obstruction, upper, effects of, (75) 258
  organs, (139) 1111
  organs, ciliated epithelium of, physiology and pathology of, (62) 2096
  organs, colon bacilli infection of, (106) 877
  organs, physiology of, (96) 1560—ab
  organs, treatment of catarrhal diseases of, (23) 73
Respirometer, improvements of, and its disinfection, (138) 1906
Responsibilities and duties of state society, (146) 1037
  of the hour, *961
Rest and exercise in tuberculosis, (1) 2233—ab
  as important factor in non-*operative treatment* of gynecology, (118) 1282
  curative *effect of, in children* with persistent loss of appetite, *1917
  cure, essence of, (105) 626
  in bed, therapeutic *value of,* (111) 626
Resuscitation in apparent death by oxygen and intubation, (132) 2198—ab
  minor points to improve Schultze's swinging in, (127) 1117—ab
  of heart by subdiaphragmatic massage, (110) 1187—ab
Retina: See also Eye
  cyanosis of, (124) 1282
  glioma of, enucleation and recovery, (140) 1037
  pigmentation of, from vitreous chamber, (128) 1282
  recovery after bilateral detachment of, (101) 1196
  tear in, (125) 1188—ab
Retinitis, leukemic, (157) 1734
  pigmentosa, typical, (128) 1282
Revaccinations, *immunization* by, (47) 873

Rheumatism, acute and chronic, (21) 707
  acute articular, (75) 441, (92) 531—ab
  acute articular, benefits from intravenous injection of mercury bichlorid in, (150) 1044
  acute, bacteriology of, (40) 2002
  acute, bacteriology and pathology of, (128) 1553
  and bee stings, (2) 1641—ab
  and chorea, (148) 442
  articular, in infant, (53) 76
  as after-affection of chorea, (82) 715—ab
  errors in diagnosis of, (124) 78
  gout and diabetes, upper air tract in diagnostic value of symptoms of, (61) 1280
  in children, (170) 171, (55) 440, (52) 708—ab, (41) 1185, (88) 1376
  in children and fatal suppurative pericarditis, (90) 202
  nodular, in children, (134) 178—ab
  of brain, (131) 717—ab
  serous inflammations due to, (2) 2235—ab
  thyroid, (44) 713—ab
  tuberculous articular, (101) 141—ab
Rheumatoid disease, physiotherapeutics in, (100) 77
Rhinedema with polyp formation, (118) 1037
Rhinitis, atrophic and ozena, (146, 149) 353
  atrophic, chronic, and diphtheria, (104) 1116
  atrophic, nature and treatment of, (29) 1820
  atrophic, treatment of, (147, 148) 353
  atrophic, vaccine treatment of, (19) 790
Rhinitis, hyperesthetic, pathogenesis and treatment, (78) 1280
  hyperesthetic, treatment of, (99) 1552
  hyperesthetic, treatment of, by injections of alcohol, (54) 791
  intumescent, treated by submucous method, (145) 950
Rhinology, importance of x-rays in, (78) 1739
  laryngology and otology, border line of, *361
Rhinoscleroma, (137) 442
Rhizomelique, spondylose, nervous system in, *463
Rhythm, to and fro, of anemic souffle at base of heart, (28) 796
Rib, first, chondrotomy of, in incipient apical tuberculosis, (106) 449—ab
  implantation of piece of, in pedunculated flap to fill defect after resection of jaw, (89) 1195
Ribs, cervical, (115) 541
  cervical, surgical importance of, to general practitioner, *1126
  fracture of, injury of lungs in, treatment of complications from, (60) 1556
  fracture of, rupture of lung, and pneumohemothorax, (34) 1378
  painful displacement of, (22) 1554—ab
  resected specimens and photographs of, (52) 76
Rice, arsin in, and etiology of beri-beri (9) 2234
Riem method, Jakoby Solms, simplification of, for pepsin determination (2) 944—ab, (88) 1115—ab
Ricketts See Rachitis
Right handedness, (27) 1111
Rigor mortis instantaneous, (77) 76
Ring bodies in blood in anemia, (72) 174
Ringworm, epidemic of, at St Gallen (73) 1824—ab
  in children (80) 2194
Rocky Mountain spotted fever, (7) 2085
Rodents and men, fleas on, on Pacific coast, *495
Roentgen ray, anatomic action of, on testicles, (95) 1288
  anatomic study of duodenum, (73) 3[illegible]6
  and bone lesions, (80) 77
  and clinical study of acromegaly, (75) 1648
  and fractures (1) 1105—ab
  and high frequency treatment of leprosy, (42) 1112—ab
  and operative treatment, congenital sarcoma of femur cured by, (70) 1286—ab
  baths and dermametropathism, (149) [illegible]
  behavior of animals in response to bacterial infection after exposure to (105) 449—ab
  case, simplified office, (3[illegible]) 1193
Roentgen ray, changes in outlines of heart, diaphragm and stomach during phases of respiration is illustrated by, (122) 442
  dermatitis, prevention of, (24) 1283
  dermatitis prevention and treatment, (166) 950
  diagnosis and treatment of bladder stones (157) [illegible]
  diagnosis and treatment of diseases of upper air passages, (92) 2010
  diagnosis and treatment of tuberculosis of pulmonary glands in children with spondylitis, (69) 2097
  diagnosis of disabled foot, (125) 950
  diagnosis of diseases of stomach and intestines (7) 710
  diagnosis of incipient pulmonary tuberculosis, (83) 715—ab, (100) 949
  diagnosis of obscure fractures, (26) [illegible], (21) 622, (24) 790—ab, (19) 1402, (21) 1640
  diagnosis of pulmonary tuberculosis, (108) 949—ab, (158) 1044, (14) 1283—ab, (64) 1904—ab
  diagnosis of renal and ureteral calculi, (79) 77, (67) 169—ab
  diagnosis of renal and ureteral calculi, fallacies in, (19) 1283
  diagnosis of tuberculosis of bronchial glands and apices, (46) 1192—ab
  dosage, (113) 84, (91) 1381, (92) 1382—ab, (92) 1740
  equipment, practical portable, for army field service, (86) 169
  examination of esophagus, (18) 1901—ab, (46) 2090
  examination of spine, (68) 1648
  examination of tracheal glands, (119) 2012
  failure to locate pierce of iron scale, siderosis of right eye caused by, (100) 1466
  flashes or intermittent x rays, (2) 1900
  hypertrichosis and port wine marks involving both sides of face, removed by, (38) 873, (112) 1111, (21) 1820
  in cutaneous tuberculosis, (7) 261—ab
  in dermatology, (45) 256, (84) 948, (102) 1472
  in elephantiasis, (145) 1820
  in epithelioma, *1761
  in exophthalmic goiter, (139) 1474—ab, (3) 1638—ab, (28) 1907
  in gastric diagnosis, (82) 77
  in leukemia, (81) 77, (95) 1036
  in neurology, *723
  in rhinology, (78) 1739
  inspection of thorax in dyspneic patients, (65) 874—ab
  irradiations of lymphatic glands, analogy between spontaneous recoveries from cancer and specific immunity induced by, (9) 1735
  leprosy apparently cured with, (12) 1729
  measurement and dosage of, by absolute units, (83) 799
  medicolegal status of, (111) 1037—ab
  method of outlining heart with, (73) 1380—ab
  motor functions of stomach after gastroenterostomy as demonstrated by, (4) 710—ab
  myelogenous leukemia and its treatment with, (54) 708—ab
  palliative treatment of malignant diseases by, (56) 947—ab
  photography for fractures, value of, (54) 1465
  photographs, instantaneous, (85) 1825—ab
  photographs, rapid surgical, (93) 1912
  removal of superflous hair by, (38) 873, (112) 1111, (21) 1820
  testimony and bearing on proposal to regulate medical expert testimony, medicolegal case, involving, (53) 1034
  tests of stomach motor functioning, (123) 1117
  treatment, (73) 714, (51) 1374
  treatment and general practitioner, (97) 540—ab, (83) 1186—ab
  treatment of deep seated processes, technic for, (78) 264—ab
  treatment of nail affections, (112) 84
  treatment of oily seborrhea, (66) 714
  treatment of sarcoma, (55) 947
  treatment of skin disease, (45) 256, (84) 948, (102) 1472
  tumors, (78) 1287—ab
Roentgen ray, uses, dangers and abuses, *1763
  value of, in chest diagnosis (5) 2185
  value of, to surgeon, its use in diagnosis and treatment, (130) 1820
Rogers, Joseph Goodwin, in memoriam, (126) 78
Room disinfection, (18) 138—ab
Rousseau, Jean Jacques, et Desessartz, (98) 173
Royal College of Surgeons, of England, (7) 2005
Rubber tubing, vessel anastomosis by, (18) 1550—ab
Rubella, acute infectious eruptive, outbreak of, (8) 1906
  epidemic of, (147) 1282
  rubeola and scarlet fever, complications of, (120) 1819
Rumination, etiology, initial symptoms and treatment of, (52) 264
Rural districts, official disinfection in, (47) 355

S

Sac, lachrymal, unilateral congenital fistula of, (34) 946
Saccharometer, new, for use with Fehling's solution, *196
Sacroiliac disease, (36) 1108—ab
  strain (133) 1111
  synchondrosis, arthrodesis of, (3) 789
Sacrosciatic foramen, hernia in, (62) [illegible]56—ab
Sacrum congenital tumor of, (51) [illegible]
Salicylates in diagnosis and treatment, (16) 2093
Saline enemas, continuous, apparatus for, in peritonitis, *406
  treatment of scrofulous lesions, (29) 444
Saliva, cat's, diastase in, (59) 350 ab
Salivary glands, symmetrical lymphangioma of, (87) 632
Salpingitis, puerperal, (32) 2001
  tuberculous, (27) 952, (82) 1110
Salt adding grain of, to professional ethics, (165) 950
  and gastric secretion, (41) 537—ab
  and sugar solutions, infusion of, in infants, (66) 630—ab
  and water, pathology of metabolism of, (84) 1559—ab
  elimination in urine of individual with general edema of obscure origin, followed by cure, (35) 2002
  injurious in essential polyuria, (69) 82
  metabolism and ash free diet, *727
  metabolism in experimental nephritis, (146) 1475
  metabolism, in pneumonia, (70) 446—ab
Salts and heart beat, (68) 169
  and non electrolytes influence of, on heart, (60) 350—ab
  physiologically isotonic solution of, *752
Sanatoria plea for more, for consumptive poor in all stages of disease, (7) 348
  treatment in, or change of climate in pulmonary tuberculosis, (3) 2088—ab
Sanatorium and home treatment of tuberculosis, (46) 2188
  treatment of tuberculosis, (59) 76, (14) 944
Sanitarians and sanitary inspectors, course of instruction for, (19) 2001
Sanitarium for consumptives in West Virginia (153) 950
  state, for tuberculosis, necessity of, (150) 950
Sanitary conditions among Alaskan Indians (50) 623
  inspectors and sanitarians, course of instruction for, (19) 2001
  power as police power of state, (52) 2188
  supervision state (17) 1184—ab
Sanitation and ankylostomiasis in tropics, (13) 1907—ab
  and hygiene domestic, municipal, national and international, (77) 869
  and physician, (117) 869
  camp and military hygiene, (86) 1466
  German field regulations for, (119) 950
  in India, (3) 1820
  in territorial camp, (9) 1466
  of mines, (5) 1466
  of small cities (81) 1552
  Panama, Treves commends, 651—ab
  problems of (174) 970—ab
  railway, (51) 2185—ab
Santonin in dysentery, (55) 1469—ab
Saranac laboratory, work on opsonins at, (10) 166—ab
Sarcoma and diseases of blood, (85) 2004—ab
  congenital teratoid sacral, with metastases, (65) 1286
  conservative treatment of, (113) 1057—ab
  diagnosis of, (41) 1641, (58) 2003
  diffuse, giant celled, of tendon sheaths, (75) 2193
  epicerebral, removal of, in region of left sensory motor convolution, (88) 358
  Hodgkin's disease a type of, (135) 753—ab
  idiopathic multiple hemorrhagic, *1205
  intestinal, (68) 2193
  intranasal, (65) 1280
  melanotic, of common bile duct and ampulla of Vater, (106) 260—ab
  metastatic, involving osseous system, (74) 1904
  of appendix, and primary carcinoma, (108) 260—ab
  of chorioid, (124) 1188—ab
  of femur, congenital, cured by operative and x ray treatment, (70) 1286—ab
  of gall bladder, primary, (56) 1556
  of great omentum, primary, (66) 81—ab
  of kidney, in infancy, (55) 76
  of liver, primary, (144) 268, (107) 800—ab, (32) 1640
  of lymph glands simulating granuloma, (83) 539—ab
  of pancreas, primary, (125) 1474
  of ovaries, (110) 949
  of rectum and anus, primary, melanotic, (22) 790—ab
  of rectum, non melanotic, (82) 176—ab
  of right orbit, (119) 352
  of right os innominatum simulating appendix abscess, (7) 260
  of tonsil, (3) 621
  of uterus, perithelial, *1227
  osteitis of lower jaw, simulating, (53) 445
  primary, in muscles, (121) 1914
  results in treatment of, (112) 1037—ab
  round celled, new lymphatic vessels in cancer, with demonstration of origin and ingrowth in metastases of, (145) 1111
  small of ciliary body showing unusual manifestations of malignancy, (126) 1188
  x rays in, (55) 947
Sarcomatosis of lymphatic glands, (3) 535
Sausages and their hygienic preparation, examination of, (18) 952—ab
Sawdust bread in habitual constipation, (85) 539—ab
Scabies, (96) 949
Scalds and burns, (32) 354, (121) 1734
Scalp, and lobule of ear, recurrent keloid of, (86) 1552
  microsporon affection of, (49) 953
  tumor, giant, (91) 1913—ab
Scaphoid, injuries of ankle region especially, (77) 1114—ab
  isolated fracture of, (81) 1114
Scapula, endothelioma of, with removal of entire bone, *757
Scar formation, possibility of avoiding in softened tuberculosis of cervical glands, (1) 2000—ab
  reduction of size of, by iodin, (86) 956—ab
Scarlatina and measles, complicated by otitis media, treatment of, (48) 1279—ab
  hydrotherapy in, *1304
  rheumatoid, gangrene of skin in, (28) 1554
Scarlatinal joint affections, (59) 874—ab
Scarlet fever, (97) 352, (45) 623—ab, (78) 1375—ab, *1407
  and erysipelas, (115) 1651—ab
  and scarlatiniform eruptions, differential diagnosis of, (22) 2186
  at Zurich, 1902-1906, (89) 652
  case developing acute nephritis treated by spartein sulphate, (25) 707
  causal germ of, (64) 1739—ab
  complement binding in, (105) 1741, (66) 1911—ab
  deviation of complement in, (87) 1115
  epidemic in Jerome, Ariz., 1907, (138) 1282
  epidemic of hemorrhagic, nephritis following, *1410
  greater preventive care during, (65) 948
  home treatment of, (9) 1707—ab

Scarlet fever, localized outbreak of, due to infected milk, (11) 1181
  patients behavior of serum of, in syphilis serum test, (67) 1470—ab
  perforation of empyema in ethmoidal and frontal sinuses into orbit, typical complication of, (69) 1648—ab
  prophylactic measures necessary to prevent complications (118) 442
  pyocyanase in, (91) 1288—ab
  rubella and rubeola, complications of, (120) 1819
  serum reaction in, (68) 1823
  treatment of, (114) 634, (116) 1012—ab, (13) 1614, (67) 1823—ab
  wound, (41) 2095—ab
Scarlet oil, influence of, on mouse tumors, (120) 2197—ab
Scharlach R salve healing of granulations under. (106) 156—ab
Schaudinn, Fritz, (147) 534
Schistosoma japonicum, infection of a Filipino by, (28) 73
Schistosomiasis, condition of liver in, (32) 1185
Schistosomum mansoni Sambon 1907, is what? (37) 1038—ab
School advice and physician, (114) 1188
  age, (61) 532—ab
  age, incidence of pulmonary tuberculosis in children of, (30) 1112—ab
  and home, preventive medicine in, (79) 948
  hygiene, (32) 1112
  life from viewpoint of psychologic medicine, (21) 1377
  of Montpelier, (72) 1732
  of tropical medicine, Honolulu, (85) 169
  public, education in (99) 867—ab
  rooms, artificial illumination of, (119) 1905—ab
Schools, corporal punishment in, from neurologic standpoint, (89) 1115
  Medical See Medical College
  medical inspection of, (13) 627, (64) 948—ab, (119) 1377, (38) 1379
  public, eye conditions in, (5) 789—ab
Sciatica, (17) 354—ab, (72) 1552—ab, (135) 1734
  from compression by echinococcus cyst, (153) 1044
  from lemonade, 1081—ab
  surgical treatment of, (79) 715—ab, (110) 800—ab (42) 1555
Science, recent advances in, and medicine and surgery, (1) 1553—ab
Scillitin, (104) 949
Sclerema in newborn infant, (97) 799
Scleroderma, (116) 626
Sclerosis, acute disseminated (18) 628—ab
  coronary artery, (74) 1465—ab
  diagnosis of multiple, (114) 949
  disseminated, eye manifestations of, (80) 1036
  incipient multiple, importance of disturbances in optic nerve in, (70) 1470—ab
  insular, diagnosis of, (81) 1036—ab
  middle ear, *364
  multiple, course, prognosis and treatment of, (82) 1036
  multiple, etiology and pathology of, (78) 1036
  multiple, optic nerve changes in, *120
  multiple, signs and symptoms of, (79) 1036
  of lymphatics corresponding to arteriosclerosis, (150) 1475—ab
  of spinal cord, (29) 1645
Sclerostome, rare, of man in Nyasaland, (25) 354
Scoliosis and insufficiency of spine, (69) 1911
  and muscular atrophy, infantile paralysis with, (43) 1907
  and rachitis, (65) 798—ab
  congenital, (138) 442
  lumbar, deformity of hip with, (68) 1039
  paradox position of pelvis in, (31) 1640
  results of modern treatment of, (103) 716
  simple method in recording, (103) 77
  treatment of, (104) 77
Scopolamin anesthesia, (55) 624
Scopolamin morphin anesthesia, (65) 714—ab, (21) 2001
  and chloroform anesthesia, (13) 1377 ab, (45) 1468—ab
  anesthesia in gynecology, (127) 267—ab
  anesthesia in obstetrics, (73) 175—ab, (115) 177—ab, (76) 875, (11) 1377, (123) 1827—ab
Scorbutus, (88) 2098
Scorbutus, or infantile scurvy, (108) 626
  pathology and anatomy of, (104) 1913—ab
Screw apparatus to promote healing of fractured patella, (87) 1381—ab
Scrofula, treatment of, (57) 1193
Scrofulous lesions, saline treatment of, (29) 441
Scurvy in South Africa, (9) 353
  infantile, (50) 257—ab, (79) 259—ab, (108) 626
  infantile causation and treatment, (22) 1907—ab
Scrotum, elephantiasis of, operative cure, (36) 2187
Sea bathing in tuberculous affections, (112) 2099
  climate, and arteriosclerosis, (88) 176
  sickness and pelvic pathology, (17) 2190—ab
Seashore and brine baths in tuberculosis of glands, (54) 445
  in tuberculosis of upper air passages, (127) 359
Seating, improper, of school children, spinal curvature arising from, and its prevention, (115) 170
Seborrhea and alopecia and acne, (13) 1371
  and its sequelæ, (95) 1281—ab
  oily, x-ray treatment of, (66) 714
Secretion and digestion, effects of alcohol on, (101) 793
  internal, action of drugs on, and nerve antagonism, (175) 87
  from pancreas fistula and influence on it of antidiabetic diet, (68) 1380—ab
  internal, reciprocal action of glands with, (140) 1475—ab
Secretions, internal, function of, (100) 1377
  internal and psychoses, (51) 872
Sedatives, soluble, of veronal group, (94) 540
Self insufflation of vapor into middle ear, tube for, (19) 1032
Self repair, therapeutics of, (49) 703—ab
Seminal vesicle or inflamed prostate, determination of gonorrheal infection in, (12) 1108—ab
Senn, Nicholas, in memoriam, *961
Sensation phrictopathic, significance of, (72) 792—ab
Sensism and cognition, (59) 1552—ab
Sensitizer, specific in Malta fever serum, (63) 1039
Sepsis, bacterial vaccines in, (82) 792—ab
  general, and pyemia, treatment of, (93) 799
  meningococcus (109) 1561—ab
  passive congestion in, (35) 1756
  postoperative, lethal factor in amebic abscess of liver, (14) 1821—ab
  puerperal, (133) 1282
  puerperal, major operations in treatment of, (35) 952—ab
  puerperal, streptococcus aggressins in blood in, (89) 799
  puerperal, treatment of, (80) 1552
  staphylococcus, nodose periarteritis as consequence of, after angina, (104) 266
  treatment of, with rectal injections of silver salts, (79) 875
Septicemia See also Sepsis
  from B pyocyaneus, and true chronic bullous pemphigus, (40) 873
  gonorrheal, with marked cardiac involvement, (17) 1549
  in human plague, experiments on infectivity of excreta, (26) 628—ab
  melitensis, (1) 171, (1) 260, (4) 353
  secondary cancer, (22) 2236—ab
  tuberculous, subacute form of (48) 873—ab
  with acute fibrinopurulent pericarditis and hypopyon iritis caused by meningococcus, (44) 1903—ab
Septum Nasal See Nose
Ser See Serum
Sermons, midnight, medical texts for, (60) 791
Serodiagnosis in mothers of infants with inherited syphilis, (84) 876—ab
  of leprosy, (78) 875
  of staphylococcus affections, (77) 2194—ab
  of syphilis, (174) 67—ab, *824, (18) 871, (83) 876—ab, (19) 944—ab, (48) 953—ab, (115) 1042, (121) 1117—ab, (45) 1191, (75) 1193, (76) 1739, (134) 1820, (83) 2010—ab, (109) 2011—ab, *2149, (71) 2193, (87) 2194
Serodiagnosis of syphilis and mental affections, (17) 1285—ab, (67) 2008—ab
  of syphilis, comparison of alcoholic and watery extracts in, *2149
  of syphilis in affections of aorta and tabes, (87) 2191
  of syphilis, practical importance for surgery of, (71) 2193
  of syphilis, simplification of technic for, (45) 1191
  of syphilis with antigens from rabbits, (120) 878—ab
  of syphilis with urine, unreliability of, (47) 953
  of tuberculosis, *1756
Serositis, multiple, (16) 2186
Serotherapy and prognosis, under various forms of treatment, of cerebrospinal meningitis, (8) 1371—ab
  and vaccine therapy, (33) 1902—ab
  characteristics of passive immunity conferred by, (53) 81
  new generalization in, (17) 172—ab
  of bacillary dysentery, (121) 442
  of carcinoma, *1488
  of croupous pneumonia, (118) 2196
  of eye affections, (81) 539, (29) 1283
  of gonorrhea in female children, (78) 169—ab, *1298, *1301
  of habu venom, (70) 532
  of infectious diseases in city of Glasgow Fever and Smallpox Hospitals, (46) 1379
  of meningitis, *15, *21, (76) 175, (18) 255, *269, (29) 1184—ab, (70) 1193—ab *1315, *1318, (80) 1375, (17) 1639, (79) 1643, (27) 1645—ab, (16) 1729, (83) 1739, (5) 1815, (98, 101) 1819—ab, (95) 1825 (11) 1906 ab, (90) 1913—ab, (39) 2002, (37) 2187, (117) 2196
  of meningococcic meningitis, (99) 1819—ab
  of nephritis, (57) 1738—ab, (59) 1823—ab
  of puerperal fever, (149) 86
  of tetanus, (54) 1113
  of tuberculosis and endobacillary albuminoids, (86) 1739
  pneumococcus, of infecting corneal ulcer, (92) 1115
Serum anaphylaxis, (108) 1110
  anaphylaxis and intoxication in guinea pig, the mechanism of, (92) 869
  animal, fresh, in hemorrhage, (2) 457—ab
  and urine of syphilitics, presence of complement binding substances in, *1142
  antianthrax, use of in Philadelphia Municipal Hospital, (109) 1282
  antigonococcus, *105, (108) 1733, (1) 1900—ab
  antigonococcus, in gonorrheal arthritis, *674
  antilytic, treatment of chronic gastric and duodenal ulcer with, (14) 1644
  antimeningitis, complications following use of, (70) 1193—ab
  antimeningitis, intraventricular injection of in cerebrospinal meningitis, followed by obstructive hydrocephalus, (159) 870
  antimeningitis, method of administering, (15) 2234—ab
  antimeningitis, use of, *15, *21, (76) 175, (18) 255, *269, (29) 1184—ab, (70) 1193—ab, *1315, *1318, (80) 1375, (17) 1639, (79) 1643, (27) 1645—ab, (16) 1729, (5) 1815, (98, 101) 1819—ab, (11) 1906—ab, (90) 1913—ab, (39) 2002, (67) 2003, (37) 2187, (117) 2196
  antipneumococcus, Romer's, action of, in croupous pneumonia, with regard to leucocyte (107) 1826
  antistreptococcus, three cases treated by, (24) 80
  antistreptococcus, in streptococcus infection of eyelids, (15) 443
  antitoxic, in prophylaxis of tetanus, (36) 173—ab
  antitryptic power of, diagnostic significance of, (74) 2009—ab
  beef, in ophthalmia neonatorum, (95) 876—ab
  Cuguillère's, in tuberculosis, (14) 1278
  curative, dangers of reinjection of, (84) 2098
  dangers of repeated injection of, (102) 1382 (104) 1740
  Deutschmann's, against infectious diseases, (17) 438—ab
  disease as clinical manifestation of anaphylaxis, (59) 709—ab
  eel, toxin and anaphylactic substance of, (90) 1040
  Flexner's. See Serum Antimeningitis
Serum, fresh normal, theory of therapeutic injections of, in acute infections, (64) 702
  heated, effect of, on rouleaux formation of red blood corpuscles, (46) 1464
  horse, abnormal reactions to, in serotherapy of meningitis, (26) 2191—ab
  horse, anaphylaxis to, (23) 1184—ab
  horse, chemical separation of anaphylactin from, (93) 869
  horse, hypersusceptibility to, (92) 259, *840
  horse, recurrent anaphylaxis and repeated intoxication in guinea-pigs by, (97) 869
  human, rabicidal properties of after antirabic treatment, (3) 78—ab
  in kidney and liver diseases antigens and cellular antibodies in, (94) 1195
  intoxication, cause of death in, (99) 869
  Malta fever, specific sensitizer in, (63) 1039
  Maragliano's untoward effects of, (62) 2188—ab
  Marmorek's, (106) 2194
  Marmorek's, in surgical tuberculosis with, (135) 1474—ab, (88) 1913—ab
  Marmorek's, in joint tuberculosis, (116) 1553—ab
  normal, action of, on organism, (98) 632
  normal and immune, opsonins of, (25) 256—ab, (113) 869
  normal, antagonistic power of, (58) 1469—ab
  normal, specificity of opsonins in, (24) 256—ab
  of animals, presence of nephrotoxic substances in, with experimental nephritis, (45) 1903—ab
  of animals with trypanosomiasis, non specific disappearance of opsonin in, (113) 1741
  of scarlet fever patients, behavior of, in syphilis serum test, (67) 1470—ab
  oral use of, (30) 1098
  prophylaxis and diphtheria epidemic at Soro, 1908, (129) 1914
  reaction, cutaneous, in syphilis, (124) 178
  reaction in scarlet fever, (68) 1823
  research, modern, Colles' law and Profeta's law in light of, (118) 1290
  Rogers Torrey · See Antigonococcus, (1) 1900—ab
  Romer's pneumococcus, in croupous pneumonia, (89) 1740
  syphilitic, fat-splitting properties of, and importance of lipolysis for serodiagnosis of syphilis, (57) 797
  syphilitic, precipitation with distilled water in, (117) 450
  test, fixation of complement in, (66) 1911—ab
  typhoid, amboceptors and complement in, (44) 1464
  tuberculous, antibodies in, that in connection with tuberculin bind complement, (58) 1193
Serums, two, action of, on carcinoma in mice, (6) 1282
Sesamoid bones of first metatarsophalangeal joint, pseudofractures of, (67) 798
Sewage, determination of total and volatile suspended matter in, (81) 1466
  may not drinking water when polluted with, be medium of dissemination of tubercle bacillus? *380
  menace in New York harbor, (57) 1552
  plant established at N J State Tuberculosis Sanatorium, account of, (68) 868
  purification, (144) 1906
  purification, Hampton interpretation of operation of, (14) 1111—ab
Sex and venereal diseases, instructions on, addressed to women of Texas in interest of home and public health, (82) 1281
Sexual hygiene, (92) 710—ab
  organs, male, prophylaxis of functional disturbances of, (90) 948
Shock and hemorrhage as postoperative complications, (101) 1904
  can operation be done for extrauterine pregnancy during, (73) 2009—ab
  cause and treatment, (149) 78
  mechanism of, an acute disease of pancreas, (128) 170
  nature of, (132) 534, (34) 1462—ab
  surgical, (1) 165—ab

Shock, surgical, experimental production and control of vascular atony of, ([illegible]) 1[illegible]77—ab
  syncope and collapse, (69) 1185
  treatment of, (48) 1551 (110) 1905—ab
Shoe for flatfoot, (117) 81
Shoulder dislocation, recurrent, of, successful operation for (46) 624
  dislocation, rare, of, (47) 707
  dislocation, simple traumatic, of, prognosis (74) 2192
  fracture dislocation of (54) 74—ab
  high congenital, etiology of, (119) 717
  impacted tonic contraction of uterus, removal of uterus and contents by panhysterectomy, ([illegible]) 872
  periarthritis of, (16) 1679—ab (17) 1750—ab (4) 1815—ab (17) 1901—ab (17) 2011 (19) 2294—ab
Shoulders, dislocation of, simultaneous (42) 623
Shovel retractor for operations on biliary passages (80) 2047
Sialolithiasis *1999
Sick, principles of feeding (80) 915—ab
Sickroom, why should exact hygiene be negligible factor in? (152) 951
Siderosis of eye caused by piece of iron scale which x-ray failed to locate (100) 1460
Sight restoration of, after nearly a month's blindness from glaucoma (4) 218
  stereoscopic acuity of, measurement of (5) 209
Sigmoid, acute diverticulitis of, operation before rupture *518
  and rectum, cancer of, surgical treatment, (27) 167—ab
  and rectum, new position for diagnosis and treatment of diseases of *1184
  and rectum, prolapse of, following hysterectomy *1125
  carcinoma of, early diagnosis of, (4) 944
  excessive length of (128) 78
  [illegible], case of (14) 1111
  multiple diverticula of (12) 1906
  tuberculous tumor of, causing stricture (54) 1040
Sigmoiditis (16) 10[illegible], (57) 1464
Silicic acid concrements in lungs treated with, (63) 874
Silk tendon as substitute for peroneus, (69) 264
Silver, colloidal, in infectious diseases (49) 955
  colloidal, in malignant endocarditis, death resulting *1510
  nitrate, glycerin as adjuvant to, (32) 1283
  nitrate in typhoid (89) 1281—ab
  preparation, pigmentation after prolonged administration of, (125) 654
  salts, rectal injections of, in septic affections (79) 875
Simaruba in ileocolitis of infants (29) 1372
Singer's nodule in larynx, etiology and treatment of (92) 1040—ab
Sinus, cavernous, fatal thrombosis of, following chronic purulent otitis (34) 537
  cavernous, septic thrombosis of, (32) 946
  cavernous, septic thrombosis of following radical mastoid operation (40) 1646
  cavernous, vein occupying sphenoidal wall communicating with, operative fatality and autopsy, (143) 950
  empyemas, frontal, surgical principles essential to cure of, (89) 2092
  frontal, diseases of, and their surgical treatment, (71) 2091
  frontal, empyema of, endonasal operation for, (150) 353
  frontal, external operation on, without deformity, *451
  frontal, intranasal method of drainage (134) 78
  frontal, intranasal method of opening and establishing drainage (67) 1552
  frontal, unusual (41) 1646
  lateral, thrombosis of, and internal jugular vein following suppurative mastoiditis (68) 674
  Maxillary. See Antrum, Maxillary
  of first branchial cleft (32) 103—ab
  of Valsalva, pseudoaneurismal dilatation of, with malformation of the heart (51) 1117
  pilonidal, *[illegible]16
  sphenoid *219
  sphenoid, cancer removed from, (79) 2087
Sinus, sphenoid, radical operation for empyema of, *2108
  sigmoid and internal jugular vein, operation for thrombosis of, of otitic origin (1[illegible]5) 9[illegible]0
  superior longitudinal, compression of, by a glioma, venous accommodation after, (4) 2005
  thrombosis complicating mastoiditis, atypical and typical, (140) 959
  thrombosis, lateral, (12) [illegible]
Sinuses, adjacent, and orbit, mixed streptococcus and pneumococcus infection of, (111) 1905—ab
  frontal and anterior ethmoidal, optic neuritis due to chronic empyema of (65) 708
  disease of, contiguous to orbit, with ocular infection, (112) 1905
  ethmoidal and frontal, perforation of empyema in, into orbit, typical complication of scarlet fever, (69) 1048—ab
  maxillary and frontal, transillumination of, (68) 620
  nasal accessory, diseases of, surgical treatment of orbital complications in, *209
  nasal accessory, drainage mechanism of (120) 870
  nasal accessory, inflammation of, as sequel of influenza, (99) 752
  nasal accessory, suppuration of, (55) [illegible]
  paranasal and tonsillar ring as portals of entry of infectious diseases (87) 2004
  superior longitudinal and lateral, thrombosis of, complicated by pregnancy, *997
  tuberculous, treatment of, (68) 709—ab (112) 1558—ab
Sinusitis, maxillary, relation of, to hay fever and asthma, (100) 352—ab
  nonsuppurative frontal, headache of (152) 171, (103) 1552
  with eye complications, (109) 1819
Skeleton, influence of suprarenals on, in osteomalacia and rachitis, (7) 1777—ab
  rachitic changes in, in ancient times and in middle ages, (131) 1474—ab
Skiagraph in diagnosis of disabled foot, (125) 950
Skiagrams and new orthodiascope x-ray as aid to diagnosis of tuberculosis of lungs with demonstration of, (64) 1904—ab
  of foreign bodies, details of experiments (12) 1183
Skin and eye pigment, staining technic for, (114) 1477
  arsenic in diseases of, *1482
  behavior of, in response to bacterial poisons, (128) 359
  dermolysis, an undescribed dissolution of, (81) 710—ab
  diseases, abuse of arsenic in treatment of, and deleterious results from its injudicious employment, (95) 259—ab
  diseases and diseases of other organs of body, (74) 792
  diseases, electrolytic medication in, (21) 1735
  disease of childhood, diagnosis of, (62) 532
  diseases, opsonic treatment of, (34) 80
  diseases, pathology in its practical bearings on, treatment of, (93) 259
  diseases, x-ray in, (84) 948 (102) 1472
  emphysema in, as accident from intubation, (58) 874
  epithelial growths of, *1398
  epithelial tumors of, and exposed mucous membranes (86) 710
  eruption, specific, in pneumonia, (16) 2190—ab
  gangrene of, in rheumatoid scarlatina, (25) 1554
  grafting (56) 1185—ab, (58) 1465
  histologic modifications engendered in affections of, by intercurrent febrile infection, (41) 873
  idiopathic atrophy of, (27) 2094
  manifestations, unusual, in intestinal autointoxication (105) 1466
  method of preventing infection from, during surgical operations (2) 621—ab (114) 2012—ab
  multiple fibroma of, in pregnant woman, (99) 1826
  nevi and other lesions of, carbon dioxid snow in, (75) 356—ab, (106) 1037—ab
  painful zones in, in disease of viscera, (5) 944—ab
  postscarlatinal gangrene of, (67) 714
  reaction to diphtheria antitoxin, *1510
Skin reaction to tuberculin in children and infants (91) 540—ab, (102) 541, (62) 791 (94) 1559 (110, 112) 1741—ab *1756 (82) 1912—ab
  reaction to tuberculin in measles, (61) 798—ab
  reaction to tuberculin in surgical affections, (95) 708
  reaction to tuberculin with tubercle bacilli substance precipitated with iron (72) 681
  sensibility of, (117) 2100
  serum reaction in syphilis (121) 178
  syphilis, diagnosis of, (58) 791—ab
  therapeutic action of adrenalin applied to, (41) 1908—ab
  tuberculosis (72) 441
  tuberculosis, toxic, non-bacterial (11) 1042
  tuberculosis, x-ray in (27) 261—ab
Skull and face, asymmetry of, and torticollis (89) 1194
  depression of, in new-born infants, treatment (98) 1288
  fracture at base of, with prolonged unconsciousness, (156) 1037
  fracture of base of, with diastasis of left temporoparietal articulation, recovery, (73) 1818—ab
  fracture of, compound comminuted, (102) 1643
  fractures of, bursting, decompressive operations in (90) 74
  fracture of, injuries of cranial nerves from *271
  gunshot wounds of, postmortem findings in (110) 2194
  hyperalgetic zones after injuries of, (101) 448—ab
  osteoplastic resection of, (31) 74
  severe trauma of, pneumococcus meningitis direct result of, (101) 1820
  syphilitic necrosis of, illustrating easy way for removing sequestra, (4) 872—ab
Sleep, experimental study of, (44) 2187
Sleeping, outdoor, in asthma and other chest troubles, (28) 354—ab
Sleeping sickness (51) 869
  atoxyl in (29) 1378
  nervous and mental symptoms, (16) 1906
  prevention of, (4) 1644
  reports of expedition to Zambesi for years 1907-1908 (25) 537
Sleeplessness (130) 626
Sling for application of plaster jacket, (112) 1819
Smallpox (38) 531
  in Atchison county, Kansas (91) 77
  in Minnesota, (18, 20) 2001, *2151
  large doses of mercury and chalk in, (38) 2191—ab
  quarantine of, *2151
Smell and taste, cerebral centers for, and uncinate group of fits *879
  perverted sense of, (73) 798
  subjective sensations of, and their significance (81) 1186—ab
Smoke abatement, (7) 1111—ab
  bituminous coal, its chemistry and effects on health of man and plants, works of art and commerce (8) 1815—ab
Snake poisoning in U. S., (29) 349—ab, (52) 947—ab
Snoring, mouth breathing, etc., (119) 793—ab
Snow, carbon dioxid, nevi and other lesions of skin, (75) 356—ab (106) 1037—ab
Soap compounds as complements, (58) 630
  concretions in cholelithiasis, *674
Social evil, what shall we do with it? (100) 169
  prophylaxis, (85) 710
Society and malnutrition (15) 1278—ab
  physician and, (183) 951
  state responsibilities and duties of, (146) 1037
Sodium cacodylate in skin diseases, *1452
  carminate, indigo carmin and methylene blue, kidney secretion of, (50) 1108—ab
  chlorid content of blood and other body fluids, determination of, *478
  chlorinated, marked disinfecting action of solution of, (82) 1649
  glycocholate, precipitate reactions with (2) 1729
  nitrate in pulmonary hemorrhage, (89) 869—ab
  nucleinate in acute infections (64) 2185
  saccharate solution, tonic action of, given by rectum, (100) 87—ab
  salicylate in sympathetic ophthalmia, (124) 1652—ab
Sodium taurocholate, precipitate reactions with (2) 1729
Solar therapy and sunlight in tuberculosis (77) 710
Soldiers, disabled, transported on regulation litter, using only mounted soldier's equipment (122) 950
  feeding of, in barracks, hospitals and war, (14) 871
Solution, Smith's, and bile media, use of, (76) 1166
  of salts, physiologically isotonic, *752
South Africa, scurvy in, (9) 353
Spa treatment of heart affections, (32) 44
Spartein sulphate, in scarlet fever with acute nephritis (28) 707
Spasm in children, tendency to, and lime metabolism, (57) 874—ab
Spasms and cramps, differential diagnosis of, from other nervous conditions, (31) 2186
  control of, by asphyxiation, (35) 1278—ab
Specialist and laboratory worker and general practitioner, (54) 257
Specialists, country doctor's relations with metropolitan institutions and, (1) 1071
  question of, (64) 1823
Specific gravity and volume of organs, (27) 1816—ab
Spectroscope for comparison, (103) 1650
Speculum, ear, with handle, *1330
  for vagina with intact hymen, (81) 447
  rectal, (41) 1551
Speech center, modern views of (139) 1013
  in children, disturbances in, general pathology and symptomatology of, (75) 798—ab
  neglected, treatment of, by general practitioner, (7) 789
Spermatic fluid, dust in, (126) 359
Spermatocele (122) 626
  and hydrocele, (134) 170
Spermatocystitis 396—ab
Spermatorrhea (123) 696
Spermatozoa, fate of (99) 541
  motility of, in epididymis *1424
Sphenoid, ethmoid and antrum, submucous resection of lateral nasal wall in chronic empyema of, *1136
  sinus occupied by vein communicating with cavernous sinus, operative fatality and autopsy, (143) 950
Sphincter control, attempt at, by new method of colostomy, (19) 2093—ab
  preservation of, excision of rectum for cicatricial stricture by combined method, with, (119) 1282—ab
Sphygmobolometer, examination with, (77) 175—ab
Sphygmomanometer, indications for use of, (92) 1377
Sphygmomanometry, device for facilitating *919
Sphygmotonograph and its findings, (141) 1475—ab
Spina bifida, treatment of, by drainage of cerebral subdural space, (10) 951
Spinal Anesthesia. See Anesthesia, Spinal
Spinal cord and brain, eye manifestations of, organic diseases of, (97) 1643
  and medulla, tuberculosis of, course of cerebello-olivary fibers in, (43) 445
  degenerations following injury to posterior roots of seventh cervical nerves, (90) 1376
  diagnosis of injuries of peripheral nerves from those of, (154) 1724
  gunshot wounds of, operative treatment, (88) 1471—ab
  sclerotic diseases of, (29) 1645
  surgery, diagnosis in, (72) 1818—ab
  transverse lesion of, symptom complex of, and its relation to structural changes therein, (49) 167
  transverse severing of, at third dorsal vertebra, (103) 448—ab
  tumor, and suppurative pachymeningitis externa, (80) 2091
  tumor and trauma, (139) 170
Spinal curvature arising from improper seating of school children and its prevention (115) 170
Spine, fractured, treatment of, (88) 251
  injury to, formation of calculi in upper urinary tract after, (70) 2097
  insufficiency of, and scoliosis (69) 1911
  railway (54) 1904
  tuberculosis of, treatment of, ([illegible]) 1467
  x-ray examination of, (68) 1[illegible]

Spirit of 1908 in medical affairs, (41) 349
Spirochæta duttoni, characteristic of, (83) 2187—ab
Spirochæta-pallida: See also Treponema pallidum
Spirochæta-pallida, (125) 78
  and syphilis, (158) 171
  demonstration of, by dark field illumination, (4) 705—ab
  diagnostic importance of, (155) 1188
  in diagnosis and treatment of syphilis, *1928, *2034
  in ultramicroscope, (84) 1649
  study of syphilitic placentæ in regard to presence of, (82) 2004—ab
  rapid method of demonstration of, for diagnosis, (54) 1374
Spirochætosis in Southern Arabia, and morphology of parasite, (35) 2191
Spirochetes in acanthia lectularia, behavior of, (48) 1039
  in mouse cancers, (93) 176
Spirochetosis of cypriote fowls, (24)354
Spirochetes of syphilis and yaws, comparative morphology of, (21) 944
Splanchnoptosis, rational treatment of, (14) 1550—ab
Spleen, abscess of, (42) 1737
  and liver, malignant disease of, cytologic examination of case diagnosticated clinically as, (141) 1734
  as hematoplastic organ, (161) 870
  diseases of, (123) 260
  enlarged, jaundice and splenomegalic jaundice, (26) 1736
  enlarged wandering complicating early pregnancy, splenectomy for, (46) 2002
  enlarged wandering, simulating pelvic tumor, (20) 2093
  enlarged wandering, with torsion of pedicle, (120) 800
  enlargements of, other than leukemic, (13) 1736—ab
  genesis of multiple cysts in, (94) 2098
  hydatid cysts of, (43) 873—ab
  necessity and possibility of retention of, in injury or disease of this organ, (66) 2193
  non-parasitic cysts of, (131) 352
  polycythemia with and without enlargement of, (93) 632
  rôle of, and blood corpuscles, histologic modes of destruction of, in production of blood pigment, (27) 796
  rupture of subcutaneous, (36) 790-ab
Splenectomy, (35) 790—ab, (120) 800, (16) 1462
  and arteriovenous anastomosis, Banti's disease with, (47) 1108
  for enlarged wandering spleen in early pregnancy, (46) 2002
  for splenomegaly; recurrence (89) 1733
  in Banti's disease, (110) 260—ab
  splenic anemia and recovery, (30) 866—ab
Splenomegaly, chronic acholuric icterus with, (87) 1288
  probable, (30) 1372
  splenectomy in, (110) 260—ab
  splenectomy in, and arteriovenous *anastomosis,* (47) 1108
  splenectomy, recurrence, (89) 1733
  with sclerosis of bone marrow, human spleen as hematoplastic organ in, (161) 870
Splint, for club foot, after operation, (69) 76
  Hodgen, improved, for fractures of thigh, (37) 167—ab
  intranasal, and combined bridge for correction of depressed deformities of nose, *1421, (98) 1552
Splintage, direct, internal, in fractures of forearm bones, (37) 1379—ab
  direct internal, treatment of fractures by, (143) 1734, (27) 1736
Splinters and granula, (49) 2095
Spondylitis, cervical deforming, etiology of, (110) 633
  children with, x-ray diagnosis of tuberculosis of pulmonary glands in, (69) 2097
  cervical, treatment, (62) 1556
Spondylose rhizomelique, nervous system in, *463
Sponge, gauze, intestinal obstruction by, *841
Spores developed at elevated temperature, (12) 2000—ab
Sporotrichosis, (28) 2094
  spontaneous, in three puppies, (55) 81
Sporotrichum beurmanni, epididymitis, orchitis and vaginalitis from, (43) 1737
Sprains, (17) 795
  treatment of, (135) 170—ab
Spud, illuminated, (132) 1188
Sputum, glycogen in, diagnostic significance, (128) 1561—ab
  pneumonic, bilirubin content of, (113) 717
  pneumonic, pigment of, (104) 541
  stained specimens of, diagnosis of influenza from morphologic standpoint in, (6) 166—ab
  tubercle bacilli in, tuberculosis with and without, (128) 1828—ab
  tuberculous, differentiation of, with Millon's reagent, (120) 2012
Squint, (109) 1614
  congenital, (155) 1734
  management of, (131) 1188, (32) 1907
Stain, Romanowsky, modification of, (36) 1378
  ultrarapid triple, (133) 1474
Staining technic for eye and skin pigment, (114) 1473
Stapes and tympano-mastoid operation, (12) 1734
Staphylococcemia, attenuated non-suppurative, (69) 2008
Staphylococci, agglutination of, (126) 1290
  saprophytic and pathogenic, differentiation of, (66) 1286—ab
Staphylococcus affections, serodiagnosis of, (77) 2194—ab
  glossitis, (110) 84
  infecton of genitals, (60) 2008—ab
  sepsis, *nodose periarteritis as consequence of,* after angina, (104) 266
  vaccine, administration and dose of, (11) 1735
Starch digestion in stomach and intestinal digestion, (44) 1555
  in infant feeding, (51) 76
Starvation, liver glycogen in, (116) 2100
State board, (149) 950
  board examinations, character of, (141) 870
  boards, medical examining, competency of, (141) 870
  duty of, to its citizens, (87) 1904
  laboratory, aid of, in diagnosis and treatment, (100) 2005
  medicine, hygiene and materia med*ica, (66)* 1375
Static findings, what to prescribe after, (107) 1037
Statistics, morbidity, purposes and objects of, and methods of collecting them, (14) 1815
  surgical, plea for uniform registration of operation results, (24) 1554
  vital accurate, necessity of, (60) 868
  vital and public health, (151) 950
  vital, importance and means of securing, (118) 1819
  vital laws of Texas, imperfections and possible remedy, (91) 793
  vital, registration of, *2212
  vital, uniformity in, *2051
Status-lymphaticus, (51) 867
  and anesthesia in tonsil and adenoid operation, (68) 1185—ab, (105) 1552
  two cases suggesting relationship to, (36) 2006
Steamships, drinking water on, (28) 2191—ab
Steel in eye seventeen years, (154) 950
  treatment of recent injuries to eye, by penetrating pieces of, (119) 1037
  weighing less than milligram removed from vitreous with resulting normal vision, (102) 1466
Stenosis and tumor, ileocecal tuberculosis causing pathology and therapy of, (45) 2095—ab
  esophageal, diagnosis of, (23) 1640-ab
  intestinal following strangulated hernia, (48) 2192
  intestinal from submucous hematoma *in hemophiliac,* (50) 1909
  laryngeal diphtheritic, intubation for, (79) 1912
  laryngeal or tracheal, severe chronic, laryngostomy and tracheolaryngostomy in, (59) 1039, (50) 1380
  laryngeal, treated by laryngoscopy, (23) 707
  laryngeal, treatment of, (1) 621—ab
  laryngotracheal, chronic, cured by laryngotracheostomy, (126) 450
  mitral and relative insufficiency of pulmonary valves, (115) 2196—ab
  mitral, experimental, volume curve of ventricles in, and its relation to physical signs, (80) 2004
  mitral, true and false, differentiation of, (121) 2012
  or obliteration of common bile duct, consequences of, (131) 1043
Stenosis, permanent, of common duct from inflammation or duodenal ulcer, (9) 530
  pyloric, benign, simulating gallstone affections, (68) 1114
  pyloric, congenital, (59) 532—ab, (2) 705, (49) 1279, (37) 1281—ab, (73) 2091
  pyloric, congenital hypertrophic and spasm of pylorus in infancy, (48) 708—ab
  pyloric, congenital, in adult, (10) 535—ab
  pyloric, hypertrophic, in infant, (44) 445
  pyloric, hypertrophic, congenital, treated medically, (8) 1038
  pyloric in infancy, (2) 705, (59) 532—ab, (73) 2091
  tricuspid, (42) 2002
Sterility in women, (10) 865
Sterilization, cataphoric, in cancer, (93) 1377, (123) 1820
  of metal instruments, (114) 800
  of potable waters by calcium hypochlorit, (14) 2235
  of rubber gloves, (119) 1117—ab
  skin for operation, (2) 621—ab, (114) 2012—ab
Sterilizer instrument, and table combined, (120) 177
Sternomastoid, torticollis from inflammatory retraction of, (51) 1380
  treatment of torticollis by lengthening, (24) 1190—ab
Stettin, diphtheria at, (58) 174
Stimulants, indications for, in pediatrics, (62) 257—ab
  used in cooking, (65) 1185—ab
Stitch, Gould, (47) 531
St. Louis, medical history of, (147) 78, (23) 167, (22) 707
Stomach, abnormal motility of, in diagnosis of gastric lesions, (8) 1106—ab
  acute dilatation of, complicating typhoid, (33) 2089
  and colon, pathology of fistula between, (97) 448—ab
  and duodenum, benign diseases of, (160) 171
  and duodenus, benign diseases of, end-results following operation for, (101, 103) 260—ab
  and duodenum, direct visual in*spection of, and diaphanoscopy,* (48) 713—ab, (159) 1476—ab
  and duodenum, hemorrhage from, (24) 167
  and duodenum, ulcer of, chronic, (171) 171, (110) 352
  and dudenum, ulcer of, round, (77) 533—ab
  and esophagus, bismuth in diagnosis of, conditions of, (16) 1283
  and esophagus, operations on, pathologic conditions and results of, (17 1283
  and intestinal digestion, starch digestion in, (44) 1555
  and intestinal disturbance, commonly overlooked causes for, (75) 1280—ab
  and intestinal gases, (13) 1462—ab, (9) 1549—ab
  and intestines, diagnosis of diseases of, by x-rays, (7) 710
  and intestines, perforations of, (19) 1184
  and pancreas, action of hydrochloric acid on secretions of, ferments in, (71) 875
  and trachea, foreign bodies in, (11) 1549
  and uterus, *1005
  cancer and carcinoma of: See Gastric Cancer
  chemistry of, changes in, after gastroenterostomy, (60) 1910—ab
  content, growth of lactic acid bacilli in, (101) 876
  content, hemolytic substances in and diagnosis of carcinoma, (57) 2097
  contents after test meal, importance and significance of chemical examination of, (3) 710—ab
  contents, analysis of, after gastroenterostomy, (83) 625—ab
  contents, occult blood in, and early diagnosis of organic gastrointestinal affections, (97) 83—ab
  contents, toxicity of, (51) 264
  diagnosis, x-ray in, (82) 77
  digestion, recent work on, (47) 791
  diagnostic importance of and method of obtaining pancreatic secretion from, (67) 1380—ab
  dilatation of, (55) 2188—ab
  dilatation and atony of, position *differentiation and treatment of,* (50) 2007—ab
Stomach, dilatation of, acute, (50) 1192—ab, (76) 1375, *1424
  dilatation of, acute, and double empyema with drainage of pleural cavities, (29) 1462
  dilatation of, acute, or duodenal-jejunal ileus? (71) 1648
  dilatation of, acute postoperative, (27) 1640
  dilatation of, atonic, (44) 1468
  disease, chronic, congenital narrowness of pylorus a cause of, in adult, (11) 535—ab
  diseases, (33) 1821
  diseases, general therapeutics of, (4) 789
  diseases of doubtful nature, early exploratory laparotomy in, (73) 624—ab
  diseases, oil in, (76) 2009—ab
  diseases, pneumococcus, (80) 875—ab
  disorders, common, among school children, (10) 531
  disorders, modern surgery in, (75) 792—ab
  disturbances and diarrheas of chil*dren in summer, (135) 534*
  disturbances in masturbators, (77) 955
  esophagus and trachea, direct inspection of, (18) 2186
  examinations of, (20) 444
  excision of, for carcinoma, (132) 1553
  fasting, pepsin content in, (135) 85
  four operations on, (124) 950
  functioning, neutral-red soup test of, (82) 1381—ab
  functions of, and bismuth salts, (18) 1283
  glands, secretory functioning of, under abdominal conditions of innervation and duct arrangement, (97) 1913
  heart and diaphram, changes in outlines of, during phases of respiration shown by x-rays, (123)442
  histology of, (48) 264
  hourglass, in children, (96) 1472-ab
  hour-glass, volvulus of, (102) 2194
  infant, development of, *1750
  infant, pepsin in, and dependence of its digesting power on hydrochloric acid, (97) 1116
  inflation of, lavage, and test meal removal, rapid method of, (81) 1280—ab
  lavage and test-meal removal, device for facilitating, *673
  leiomyoma, suppurative of, with hour-glass contraction, (109) 1466
  lesser curvature of, and esophagus, resection of, and *esophagostomy* following osteoplastic resection of costal arch, (33) 1730
  linitis plastica of, cured by jejunostomy, (33) 1107
  motor functioning, x-ray tests of, (123) 1117
  motor functions of, (4) 710—ab
  mucous membrane of, diagnostic value of perverted secretion of hydrochloric acid by, (5) 1638—ab
  mucous membrane of, direct inspection of, (18) 795—ab
  neuroses of, (38) 74—ab
  non-malignant disease of, preoperative treatment of, (28) 1736
  non-malignant diseases of, surgery of, (3) 353
  operative treatment of perforation of, (57) 954
  origin of dyspnea, (50) 953
  overdistention and overwork of, when food is eaten too rapidly, (43) 713—ab
  paralysis of, acute, with secondary occlusion of duodenum, (122) 717
  pepsin and lab in fundus and pylorus of, and relations between action of pepsin and concentration of acid, (99) 1041
  perforation of, subacute, (36) 1640
  peristaltic movements of, and capacity of extension of fundus, (61) 174
  polyps in, (100) 448—ab
  protection of, against autodigestion, and antipepsin for treating gastric ulcer, (68) 1558—ab
  rinsing water and test meals, poisonous properties of, (50) 264
  secreting functions, influence of hydrogen dioxid on, (59) 1910—ab
  secretion after test *meals,* (61) 261
  secretion, influence of nutritive enemata on, *315
  secretion *in old age,* (43) 349—ab
  sensibility of, (91) 1649
  surgery, (54) 1822—ab
  syphilitic tumor in, (121) 178
  tests, functional, in diagnosis of ulcers of stomach, (70) 1114—ab
  tetany with chronic dilatation of, (82) 1114

Stomach, tuberculosis of, tuberculous cavities of liver, (142) 1111
  Ulcer of See Gastric Ulcer
  uses of, (25) 531
Stomatology, educational requirements and opportunities in, *7
Stone See Calculus
Stools and urine infant's home made apparatus for collecting, for research on metabolism, (64) 1409
  and urine, toxicity of, and intestinal putrefaction in infants fed on foods rich in albumin, (152) 359—ab
  character of and intestinal findings in diarrheal affections of infants *1906
  eggs of parasites in, facilitation of detection of, (61) 1193—ab
  fermentation in apparatus for determining, (168) 87
  indol in, and indican in urine, (67) 1114
  infant, curds in, (4) 72
  microchemical test for mucous in, (100) 2099—ab
  normal, proportions of constituents of, (69) 1114—ab
  occult blood in, and early diagnosis of organic gastrointestinal affections, (97) 83—ab
  occurrence of dissolved substances in, with increased peristalsis of intestines, (61) 1910
  urobilin in, in health and disease, (39) 1191
Stooping, interference with heart action by, (89) 265—ab
Stovain anesthesia, spinal, (82) 1287—ab, (6) 1820
  spinal, deaths after, (35) 1190—ab
  spinal, modifications in nervous system after, (70) 955—ab
Strain or relaxation of sacroiliac joint, conditon of, (125) 1734 ab
Streptococci, carbohydrate reactions of, (6) 870
  hemolytic, in puerperal infection, (59) 1113—ab
  hemolytic, virulent, differentiation of, (111) 1383—ab
Streptococcus, and pneumococcus infection, mixed, of orbit and adjacent sinuses, (111) 1905—ab
  infection in rabbit's ear, experimental hyperemia in, (100) 1913 ab
  infection, puerperal, treated with vaccine, (10) 871
  infection with typical Widal reaction, (63) 1109
Striæ atrophicæ as sequel of acute pneumonia, (23) 1190—ab
Stricture, cicatricial, excision of rectum for, with preservation of sphincter, (119) 1282—ab
  impassable of urethra, retrograde catheterization in surgical treatment of, (19) 167—ab
  of esophagus, (76) 792
Strictures in rectum (92) 632
Stridor, congenital laryngeal, apparently due to enlarged thymus, (135) 1188 (148) 1252
Strongyloides stercoralis, (64) 2003
Strophanthin, intravenous injection of, in degeneration of myocardium, (34) 2238—ab
  treatment intravenous, (67) 174—ab, (70) 1193
Strychnin, hypodermic use of, in paralyzed limbs (61) 1903
  poisoning, pilocarpin in, (129) 793
Student, postgraduate (50) 1903
Stump old amputation plastic resection to restore function to, (52) 1909—ab
Stumps weight bearing, Hirsch technic for, (49) 713
Stutterers in business and in court, (82) 955
Style operation for removal of, in nasal duct, (141) 1037
Styles, lead, treatment of strictures of nasal duct with, *1207
Subconscious, on trail of, (151) 1734
Suburethral abscess in women, (42) 797—ab
Suboxidation general from prolonged unremitting physical and mental effort, (45) 1374—ab
Success, psychology of, (1) 710
Sugar and salt solutions, infusion of, in infants, (66) 630—ab
  excretion in phloridzin glycosuria influence of cold and mechanical exercise on, (71) 350—ab
  grape, copper hydroxylamin test for, (111) 800
  in diabetes, laws regulating elimination of, (135) 634
  nervous control of production of, in animal body, (92) 1186
  production of, from glutamic acid ingested in phloridzin glycosuria, (72) 350
Sugar refineries, tuberculosis in employés of, (41) 712
  titration Bang's method for, (75) 261
  titration, rapid and precise determination of terminal reaction in, with Fehling's solution, (93) 1288—ab
Sugars of aromatic group, and animal organism, (82) 1191
Suggestion, adverse, (8) 166
  and hysteria, (35) 796
  in its physiologic bearings (20) 1111
Suicide during childbirth, (82) 799
Sulphonal, prolonged use and toxic action of, (41) 1902
Sulphates, ethereal, in urine in gastrointestinal autointoxication, (45) 1822—ab
  ethereal, in urine in pathologic conditions, (69) 1029
Sulphocarbolates in typhoid (101) 949
Sulphocyanates solvent action of, on lime and magnesium deposits in system (6) 621—ab
Sulphur baths, artificial, (97) 876
  neutral determination of, in urine, (72) 875
Summer complaint, (98) 2189
Sun's rays and artificial heat, classification of effects of, (49) 623—ab
  rays unmodified, in lupus vulgaris, (19) 1821—ab
Sunlight and solar therapy in tuberculosis, (77) 710
  excessive, dangers of, in tuberculosis (13) 1106—ab
  sterilizing action of, on hides 663 ab
Sunshine and bacteria, (120) 534
Suppuration antiferment treatment of, (70) 2193—ab
  chronic, above tympanum, conservative treatment of, (88) 799—ab
  contour and contents of epitympanum and, (58) 1280
  hyperemic treatment of, (69) 1286 ab
  in maxillary antrum, treatment of, (91) 1112 (18 19) 1644
  of labyrinth, diagnosis and treatment of (141) 950
  of temporal bone bearing of on surgical anatomy of, on spread and cure of, (137) 1906
  of temporal bone, causation of, (139) 950
  of temporal bone, pathology and bacteriology of, (137) 950
  of temporal bone, treatment of, other than surgical, (60) 1280
Suppurations, acute, criticism of treatment of, by passive hyperemia and cupping, (26) 1640—ab
Suppurative processes antiferment treatment of, without incision (140) 359—ab
Suprarenal and pituitary extracts, inhibition of pancreatic activity by, (38) 1463—ab
  body, cystic tumor of, successfully removed by operation, (11) 353
  extracts, inhibition of pancreatic activity by, (43) 2002
  gland like openings in cortex of, (53) 1192
  capsules and rachitis, (134) 85—ab
  capsules, functions of, (2) 78, (11) 79
  capsules in puerperal eclampsia and pregnancy nephritis, (51) 81—ab
  extract in aortic insufficiency, (127) 450—ab
  preparations, in obstetrics, (53) 630—ab
  preparations in, osteomalacia, (70) 82, (138) 718
  products in blood and urine, determination of, (93) 358
  tissue, Croftan's method for differentiating, by biochemical tests, (107) 265
  tissue in kidney, experimental transplantation of, (55) 355—ab, (40) 2095—ab
  transplantation, *640
Suprarenals, acute insufficiency of, (20) 944
  and kidneys, (67) 875—ab
  hemorrhage in, (124) 634
  hemorrhage of, in infants, *1964
  hyperplasia of hypophysis, hypertrophy of heart, and arterial hypertension, (29) 796—ab
  in arteriosclerosis, histologic findings in, (106) 266
  influence of, on bony skeleton in relation to osteomalacia and rachitis, (7) 1377—ab
  lesions of, and chronic nephritis and arteriosclerosis, (23) 2089—ab
  primary tumors of in children, (35) 439
  secretion, (116) 359
  tuberculosis of, and congenital syphilis, (94) 176—ab
Supraspinous fossa, symptomatology of, the alarm zone in tuberculosis (53) 2007
Surgeon, conservative, and symptomless uterine fibroid, *972
  country, (67) 1465—ab
  necessity of being conservative as to operation, (151) 1820
  railroad, legal relations of, to railroad companies, (89) 793
  visiting North America, impressions of, (110) 877
Surgery, abdominal, thoroughness in, (85) 869
  accidents due to antiseptics in, (37) 953
  ancient, (115) 1377, (111) 1466
  and anatomy of peritoneum, (14) 865
  and medicine, evil tendencies of, (2) 2088—ab, (18) 2234—ab
  and medicine of Northwest, organization and centralization of, (67) 1109—ab
  and medicine, oxygen in, (137) 626—ab
  and medicine, recent advances in science and their bearing on, (1) 1553—ab
  and tabes, (32) 796—ab
  antiseptic, history of, (143) 78, (1, 10) 353—ab
  are gloves and masks advisable in? (31) 1107—ab
  aseptic, easy methods of carrying out principles of, (123) 170
  bone, motor for, (50) 1034
  cosmetic and plastic, of ear, (136) 1906
  debts which medical science owes to (172) 352—ab
  dental and major, nitrous oxid and oxygen in, *907
  general and disease of maxillary antrum, (43) 2007—ab
  importance in, of serodiagnosis of syphilis, (71) 2193
  in smaller cities, growth and development of, (3) 1105
  minor, ethyl chlorid as general anesthetic in, (51) 623
  modern, achievements of, (101) 1037, (5) 1549—ab
  modern and pathology, (30) 1462
  modern, in stomach disorders, (75) 792—ab
  modern, military, dawn of, (30) 167
  modern requirements of, (14) 1467
  of facial nerve, (134) 950
  of lungs bronchotomy and resection, (63) 2193—ab
  of lungs, intrapulmonary positive pressure in *803, *805, *808, (62, 64) 2193—ab
  plaster of Paris in, (170) 950
  plastic neglect of, about pelvic outlet, (57) 532—ab
  principles of, (31) 531, (32) 707, (133) 950, (29) 1278
  prophylaxis in, (1) 789—ab, (3) 794
  railway conservatism in, (127) 1820
  recent advances in, (27) 1190
  special and general, and diseases of maxillary antrum, (13) 1038
  technic of, without antiseptics, (15) 692
  when shall physician distrust his own judgment in? (62) 868—ab
Surgical affections, skin reaction to tuberculin in, (95) 358
  affections zinc gelatin dressings in (91) 2010—ab
  cases, general, at Fordham Hospital (10) 2000
  cases, importance of after treatment in (82) 1732
  cleanliness, excesses in, (22) 1107
  notes, (36) 1555
  outrages, (20) 1901
  pendulum, a plea for conservative surgery, (68) 2091
  rights of public, (1) 864—ab
  situation, (5) 1901—ab
Sutika, the puerperal diarrhea of Bengal, (5) 2005
Suture, circular, of brachial artery, (104) 1472
  intercutaneous, and buried catgut in plastic operations on perineum, (48) 531
  non absorbable, (40) 74
  of arteries, (44) 797
  of bladder, indications and results of, (46) 797
  primary, for bullet wounds of lung, (82) 1471—ab
  purse string, right and wrong application in appendicectomy, (103) 793
  re-enforcing, postoperative ileus from, (87) 1471
  rubber, intestinal anastomosis of mucosæ with, (138) 359—ab
Sweating, desquamation from, *1328
Swimming tank, menace of, (4) 255—ab
Sydenham method greater than method of laboratory, (24) 1462 ab
Symbiosis, influence of, on pathogenicity of micro organisms, (65) 532—ab
Symphyseotomy during pregnancy, (19) 1646—ab
  pubiotomy vs, (46) 1555
  subcutaneous, and extraperitoneal Cesarean section, (10) 1377
Symphysis and pubic bone, resection of, for removal of pelvic tumors, (65) 2193
Synchondrosis sacroiliac, arthrodesis of, (3) 789
Syncope, shock and collapse, (60) 1185
Syncytioma or chorioepithelioma of placenta, (29) 167—ab
Syncytium, functions and relations to toxemia of pregnancy and to cancer, (50) 947—ab
Syndrome, paroxysmal, probably allied to recurrent vomiting, (36) 2002—ab
Synovial fluid, artificial, (66) 441
  membrane, pathogenesis of ganglia, (45) 707—ab
  membrane, structure of, and absorption of joint content under variable mechanical influences, (67) 1648
  membrane, structure and development of, (45) 707—ab
Synovitis in youth with ichthyosis, leukemia complicated by, (30) 1378
  of knee joint as late manifestation of acquired syphilis, (6) 1901—ab
Syphilids, cutaneous diffusely disseminated in monkeys after inoculation in testicles, (58) 1823
  local injections of mercury in, (28) 172—ab
Syphilis, (30, 40) 349, (21) 444—ab, (18) 790 (94) 1552, (49) 1641—ab, (16) 1644—ab, *2031
  acquired, diffuse interstitial keratitis in, (113) 1905—ab
  acquired, synovitis of knee joint as late manifestation of, (6) 1901—ab
  Adams Stokes' syndrome in, (147) 1475—ab
  amputation of penis in (125) 626
  and dermatology, (80) 710, (95) 1281
  and general paralysis, precipitin reaction in, (72) 376
  and gonorrhea, drug action in, (66) 1552
  aneurism of heart due to gummata, (3) 1644
  antibodies in milk of women with, 1409—ab
  and parasyphilitic affections deviation of complement in, (153) 360
  and tabes, (131) 634—ab
  and yaws, comparative morphology of spirochetes of, (21) 944
  arsenic in, (64) 1193
  arthropathies of, (8) 1644
  as portrayed by Shakespeare, (117) 626
  atoxyl in, (119) 442
  cerebrospinal, diagnosis and treatment of, (97) 1036
  communicated in assault and battery, (4) 621
  complement binding substances in serum and urine in, (91) 83, *1142
  complement binding test for, (52) 2096—ab
  congenital, (136) 260
  congenital, and progressive paralysis (112) 1561—ab
  congenital, and tuberculosis of suprarenals, (94) 176—ab
  congenital, lack of connection of congenital deformities with, (69) 1380
  congenital, serodiagnosis in mothers of infants with, (84) 876—ab
  crises in, simulating surgical emergencies, (20) 1816
  cutaneous, diagnosis of, (58) 791 ab
  cutaneous serum reaction in (124) 178
  dyspnea of, (173) 171
  etiology of, (87) 793
  extragenitally acquired in early childhood, (8) 438—ab
  failure of calomel salve to protect against, (90) 176—ab
  findings in lymph gland in (166) 87
  hereditary, (139) 442, (60) 532—ab, (128) 1188
  hereditary, and infant feeding (153) 1475
  hereditary, aural manifestations, (40) 81—ab
  hereditary, brain findings in infants with, (80) 1912—ab

Syphilis, hereditary, buphthalmos, prenatal iridocyclitis, (128) 1188
  hereditary, fixation of complement in, (66) 1911—ab
  hereditary, juvenile paralysis from, (102) 1560
  hypodermic treatment of, (87) 259, (58) 1903
  jaundice due to, (173) 171
  in army, prophylaxis of, (51) 81
  in pregnancy and early infancy, (51) 1279
  in prehistoric Egyptians, (3) 1038
  in registered prostitutes, (111) 541—ab
  incubation in, (30) 2094—ab
  inhalation of mercury in, (114) 1289—ab
  insufflation of calomel in nose in, (79) 264
  intramural injections of salicylate of mercury in, (118) 793—ab
  keratitis, interstitial, in, *202 (17) 2186
  late. mercury in, *1954
  liver lesions from, and Malta fever, (115) 1914
  mineral waters in, (66) 1039—ab
  necrosis of skull in, showing easy way for removing such sequestra, (34) 872—ab
  nephritis, acute, due to, (17) 166
  neurasthenia due to, diagnosis and treatment, (19) 354
  of bone and joints, (57) 947—ab
  of liver, (36) 1033
  of liver, *diagnosis of*, (107) 1905
  of liver, protracted fever in, (66) 1193—ab
  of lungs, (147) 268—ab, (49) 1192—ab
  of nervous system, (30) 2186
  of uterus, late, diagnosis of, (148) 268—ab
  of uterus, late, and uterine cancer, diagnosis of, (148) 268—ab
  origin of, and invention of name, (1) 1729—ab
  osteochondritis, congenital, due to, simulating Erb's paralysis, (47) 2062
  paralysis and neuralgia of, (58) 81-ab
  paralysis, facial, due to, (29) 2186
  placental, (82) 2004—ab
  polioencephalitis due to, (36) 2091
  positive response to specific test for, *in non-syphilitic affections*, (116) 450
  precipitin reaction for serum diagnosis of, (113) 266
  prophylaxis by use of calomel ointment, (13) 1639
  quinin in, (111) 84—ab
  rebellious intestinal, hemorrhages in, complete exclusion of large intestine for, (85) 1471
  reinfection with, (25) 790—ab
  secondary, pathologic anatomy and microbiology of, grave jaundice in, (43) 1646
  serodiagnosis of, (174) 87—ab, *824, (18) 871, (83) 876—ab, (19) 944—ab, (48) 953—ab, (115) 1042, (121) 117—ab, (45) 1191, (83) 2010—ab, (109) 2011, (52) 2096, *2149, (71) 2193
  serodiagnosis of, and mental affections, (47) 1255-ab, (67) 2008-ab
  serodiagnosis of, comparison of alcoholic and watery extracts in, *2149
  serodiagnosis of, fat-spliting properties of syphilitic sera and importance of lipolysis for, (57) 797
  serodiagnosis of, in affections of aorta, and tabes, (87) 2194
  serodiagnosis of, in obstetrics, (70) 798—ab
  serodiagnosis of, with antigens from rabbits, (120) 878—ab
  serum of, *precipitation* with distilled water in, (117) 450
  serum test, and serum of scarlet fever patients, (67) 1470—ab
  severe diabetes due to, (63) 798
  sodium taurocholate for diagnosis of, (2) 1729
  spirochæta pallida and, (158) 171
  spirocæta pallida in diagnosis and treatment of, *1928, *2034
  tabes dorsalis and paralysis, (72) 1558—ab
  tertiary visceral, intermittent or prolonged fever with, 60) 1193-ab
  treatment of, (61) 76, (14) 2066
  tumor in stomach due to, (121) 178
  unreliability of complement-binding *reaction for diagnosis in*, (99) 715
  unreliability of serum diagnosis of, with urine, (47) 953
  yellow atrophy in, (72) 539
Syphilitics, tuberculosis in, evolution and treatment of, (43) 1822—ab
Syphiloma of uvea, (46) 1737
Syringe for removal of foreign bodies and plugs from ears, (63) 1193
  glass hypodermic, method of removing plunger from, *572
Syringomyelia, (10) 2088
  and dystrophy, (91) 1913—ab
  with bulbar symptoms, (102) 1011
  with hydrocephalus, *1933
Systole of auricle, (141) 1743

T

Tabes-dorsalis, (4) 2000
  and paresis, relation of, (7) 255—ab
  and pseudotabes, diagnosis of, (115) 949
  and *general paralysis, pathology* and *treatment of*, (4) 2093—ab
  and surgery, (32) 796—ab
  and syphilis, (131) 634—ab
  arterial pressure in, and its modification under influence of gastric crises and lightning pains, (53) 1738—ab
  eye crises in, (118) 1474—ab
  improvement of peripheral centripetal neuron in, by *Frenkel's* exercise-therapy, (81) 955—ab
  lancinating pains in head in, (106) 1913—ab
  laryngeal crises and paresis of abductors of vocal cords as important early symptoms of, *815
  mercury in, (128) 1290—ab
  paralysis and syphilis, (72) 1558—ab
  pathogenesis of, (57) 440—ab, (35) 866—ab, (35) 1378—ab
  serodiagnosis of syphilis in, (87) 2194
  spinal and cerebral, early diagnosis of, (130) 1734
  treatment of, *1915
Table, and instrument sterilizer combined, (120) 177
  operating, (6) 1734
Tachycardia, exophthalmos and tremor following extirpation of tuberculous glands in neck, (27) 2186
  paroxysmal, (122) 1914
  paroxysmal, abortion of attack, (112) 177
  paroxysmal, auricular fibrillation and auriculoventricular extrasystoles, (81) 2004
Tact in practice of medicine, (60) 168
Tail-like formations and congenital lipoma in man, (122) 634
Taint in miscured hams, nature and causes of, (5) 353—ab
Talipes, technic of *tarsectomy* for, (13) 1554
Talladega, epidemic of jaundice in, (156) 78
Tapeworm, ileocolitis in boy of three complicated by, (111) 1282
  treatment of, (23) 872—ab
Tar and asphalt workers' epithelioma and chimney-sweeps' cancer, (22) 1038
Tarsectomy retaining calcaneum, (72) 1039
  technic of, for talipes, (13) 1554
Taste and smell, cerebral centers for, and for uncinate group of fits, *879
Tea and coffee poisoning, (46) 349
Teacher, physician as, (102) 534
Teachers, training of, in personal and school hygiene, (12) 871
Tears, action of, on bacteria, (100) 1196
Technic, aseptic for appendicectomy, (76) 2004
Teeth, and anatomic and pathologic conditions of maxillary antrum, (44) 2007—ab
  deformities of, (147) 870
  permanent, rachitic erosions of, with lamellar cataract, *1130
  trigeminal neuralgia from changes in, (121) 266—ab
Teething and its alleged troubles, (14) 1038
Telangiectases, multiple, (36) 1907
  of tendon, traumatic focal, (5) 437
Teleradiography, value of, in diagnosis, (13) 1283
Telephone and motor car, axis traction forceps vs., (34) 1555—ab
  girls, occupational accidents of, (51) 953
Temperance instruction, needs of, (48) 1185
  pioneers in medical profession and their work for last century, (91) 1466
Temperature coefficient of velocities of various physiologic actions, (49) 1108
  coefficient of velocity of nerve condition, (73) 350—ab
  differences in, in axillæ in acute appendicitis, (62) 1193—ab
Temperature, external, influence of, on experimental glycosuria, (128) 631
  in healthy and sick infants, daily variations in, (96) 1116—ab
  influence of, and other physical conditions of calf vaccine, (30) 2190
  influence of, on solubility of casein, *in alkaline solutions*, (42) 1731
  unilateral higher, occurrence and significance of, in lung affections, (102) 1650—ab
Tenaculum, uterine, *1695
Tenderness in ciliary region, diagnostic value of, (63) 441
Tendon sheaths, diffuse giant-celled sarcoma of, (75) 2193
  sheaths of foot and tendovaginitis and perimysiitis crepitans, (76) 2193
  transplantation, (65) 1823
  traumatic focal telangiectasis of, (5) 437
Tendons, suture of, (86) 876—ab
Tendovaginitis and perimysiitis crepitans in relation to tendon sheaths of foot, (76) 2193
Tenia echinococcus, (20) 1278
Tenotomy of psoas magnus, psoas parvus and iliacus in spastic spinal paralysis in adult, (103) 1826-ab
Tension, arterial and capillary, in arteriosclerosis, (58) 1286
  increased intracranial, treatment of, (34) 354
Tents and drains, intrauterine, (96) 716—ab
  dispensing with, (125) 1828—ab
  laminaria, removal of, from cervical canal, (146) 360
Teratomas, solid, of ovary, (145) 1744—ab
Test: See also Tests
  agglutination, simple typhoid, (53) 1374—ab
  biuret, for pepsin in stomach content, (169) 87
  Cammidge's illustration of crystals of pancreatic reaction according to, (5) 2000
  complement-binding, in leprosy, (171) 87
  complement-binding in meningitis, (93) 2010
  complement deviation, in typhoid, (62) 1380
  copper-hydroxylamin, for grape sugar, (111) 800
  Drigalski-Conradi litmus-lactose agar, modification of, for isolation of B. typhosus, (11) 622
  Edestin, for pepsin, (92) 83
  ferricyanid, for gas in blood, (99) 83
  meal, importance of chemical examination of stomach contents after, (3) 710—ab
  meal removal and gastric lavage, device for facilitating, *673
  meals and stomach rinsing water, poisonous properties of, (50) 264
  meals, stomach secretion *after*, (61) 264
  musculo-precipitin, forensic value of, (115) 869
  neutral-red soup, of stomach functioning, (82) 1381—ab
  phloridzin, of *kidney functioning*, (110) 177—ab
  precipitin, for biologic research on feces, (110) 2011
  Rivalta's, differentiation of exudates from transudates by, (94) 956—ab
  simple typhoid agglutination, (53) 1374—ab
  tube and miscroscope, value of, in diagnosis, (57) 350
  type charts, method of illuminating, *with artificial light*, (177) 171
  vaccine, by subcutaneous injection, (160) 86
Testicle, adenoma of, non-existence of, (35) 173
  and epididymis, indirect treatment of disease of, (20) 1554
  and prostate, gout of, (94) 265
  cancer of, condition of glands in, (42) 873—ab
  faulty descent of, (89) 948
  normal, spontaneous torsion of, (51) 1738
  tuberculosis of, (65) 441
  tuberculosis of, diagnosis and indications for operation, (58) 867—ab
  undescended, operation for, (30) 952—ab, (33) 1038, (32) 1372—ab
  undescended with inguinal hernia, treatment of, (31) 1372—ab
Testicles, anatomic action of x-rays on, (95) 1288
  descending, (17) 261
  inoculation in, diffusely disseminated cutaneous syphilids in monkeys after, (58) 1823
Testicles, interstitial cells in, (95) 1913
  translocation of, (103) 1377—ab
Testimony, expert, and medical jurisprudence and eye, ear, nose and throat, (111) 1377
  expert, medical, a delusion, (137) 1188
  expert medical, medicolegal case *involving x-ray testimony* and its bearing on proposal to regulate, (53) 1034
  expert medical, present status of, *on insanity, plea for corrective* legislation, (93) 1552
Tests, application of, to deaf mutes, (21) 1644
  Barany's, application of, to deaf mutes, (41) 2007—ab
  clinical, biochemical reactions as, (112) 266
  functional, and training of heart, apparatus for, (74) 356
  physiologic, of drugs, (72) 261
Tetanus, (33) 1112
  antitoxin treatment of, (36) 173—ab, (37) 537, (54) 1113, (92) 1649
  cholesterin in, (137) 1734
  influenzal encephalitis simulating, (83) 176
  Kernig's sign in, (65) 1380
  local, (80) 447
  magnesium sulphate in, (15) 530—ab
  prevention and treatment, (131) 950, (134) 1553—ab
  treatment of, (52) 355—ab, (114) 1651—ab
  toxin, attraction of, to lipoid substances, (52) 355—ab
Tetany, (138) 1111
  and autopsy findings, (84) 1912—ab
  and pregnancy, (113) 877—ab
  experimental, after parathyroidectomy; enhanced susceptibility of offspring, (83) 632
  familial, (136) 1474—ab
  following phosphorus intoxication, (137) 1474
  fo [illegible] cured by [illegible] of para- [illegible] 1033
  in adult, (13) 535
  in infant four days old, *755
  suppurative cerebrospinal meningitis in infants simulating, (31) 173
  with chronic dilatation of stomach, (82) 1114
Texas, progress of medicine in, (97) 259—ab
  state board of medical examiners, work done by, (94) 793
  state health department, work done by, (92) 793
  vital statistics laws of, imperfections and possible remedy, (91) 793
Therapeutic applications of radium emanations, (102) 632
  measures, variations in *calcium* content of blood following, (28) 945
  observations, *1490
  pessimism, (105) 1904
  prejudices, (147) 1906
Therapeutics, (119) 534—ab
  and diagnosis, hold fast to that which is good in, (61) 1732
  and diagnosis, lumbar puncture in, *1566
  and pharmacology, necessity of added emphasis in teaching of, (25) 623
  homogeneous radiation in, (60) 954
  in light of ecology, (130) 260
  of self-repair, (49) 708—ab
  physical, (32) 1902—ab
  physical, importance and value of, (80) 625
Therapy, old, passing of, (83) 1904
  pathology and anatomy of chronic endometritis, (58) 2193—ab
  plea for more exact, (25) 1372
Thigh, fractures of, improved Hodgen splint for, (37) 167—ab
Thimble and dissector for surgeons, *40
Thomsen's disease, study of, by sufferer from, (57) 2091—ab
Thoracic and abdominal diseases, inter-relations of, (21) 351
  duct, possibility and importance of retrograde lymph *current from*, (94) 876
Thoracopagus, tetrabrachius, case of, (57) 1113
Thoracostomy in heart disease, (2) 442—ab
Thoracotomy and pericardiotomy, for wounds of heart, recent advances in technic of, (52) 1031
  when to perform in empyema, (125) 1820
Thorax and abdomen, access to wounds [illegible] (52) 1285—ab
  [illegible] matory condi- [illegible] *from appen-* [illegible] 441—ab

Thorax and abdomen interrelations of diseases of, (18) 444—ab
  and abdomen penetrating wound of, (81) 625—ab
  and its viscera, diseases of, (97) 1281
  apparatus for artificial respiration after opening (140) 2198—ab
  empyema of, Henry's rubber drainage spool for, (62) 1642
  new growths of, (1) 870—ab
  paralyzed cyrtometer tracing showing changes in shape of, (21) 795—ab
  restoration of balance in regard to space in after extirpation of one lung (34) 1909
  rigidity of, emphysema from, chondrectomy for, (51) 797
  stab wounds of, from criminal point of view, (150) 1475
  surgery of, *802 *805 *808, (64) 2195—ab
  total mobilization of wall of and release of lung, in unilateral pulmonary tuberculosis (53) 1909—ab
  x-ray inspection of, in dyspneic patients (65) 874—ab
Threadworm parasitic in swim bladder of trout Cystidicola farionis, Fischer, (52) 1079
Throat acute inflammations of, local treatment of, (4) 165
  affection, chronic diphtheroid, (59) 174
  and nose examination, (15) 2006
  and nose work in Vienna, (110) 1773
  and nose work, recent advancements in through bacteriotherapy, (68) 1772
  disease lactic acid bacilli cultures in, (18) 748
  eye ear and nose conditions faulty, effect of, on mental development of school children, (88) 1115
  eye nose and accessory cavities, diseases of, (77) 1471—ab
  nose and ear complications of infectious diseases (65) 2188
  nose and ear diseases climate of north and northwest in etiologic and therapeutic relation to, (102) 1552
  nose, eye and ear, expert testimony and medical jurisprudence as relating to, (111) 1377
  pulsating vessels in, (133) 1117
  removal of diseased tonsils and adenoids to rid it of diphtheria bacilli, (66) 1289
  tuberculosis of, inoculation treatment, (55) 80
Thrombo angiitis obliterans, (40) 1902—ab
Thrombophlebitis and puerperal peritonitis operative treatment of, (48) 630—ab
Thrombosis and embolism warning symptoms of, (145) 1043—ab
  and cerebral and ocular complications of anemia (26) 1373—ab
  brachial, causing ischemic contracture with secondary ulnar neuritis *2059
  cerebral, pathogenesis of, (73) 1186
  cavernous sinus, fatal following chronic purulent otitis (34) 537
  cavernous sinus septic, following radical mastoid operation on seventh day, (40) 1646
  embolism, postoperative, (59) 355—ab
  jugular, double mastoiditis and sigmoid sinus, (85) 1552
  of cavernous sinus, septic, (32) 946, (162) 1189
  of lateral sinus, (12) 353
  of lateral sinus, and cerebellar abscess, (122) 1377
  of lateral sinus and internal jugular vein following suppurative mastoiditis, (68) 624
  of otitic sinus, and pyemia, (92) 1552
  of sigmoid sinus and internal jugular vein of otitic origin, operation for, (135) 950
  of sinus complicating mastoiditis, (140) 950
  of superior longitudinal and lateral sinuses complicated by pregnancy, *1097
  prophylaxis of, (124) 1827—ab
  portal, etiology of, (103) 266, (119) 450—ab
  sinus, diagnosis and treatment, (103) 1819
  sinus, following removal of granulation tissue from middle ear, excision of internal jugular vein, (88) 1552
  traumatic venous (51) 1464
  venous and hydrocele of inguinal canal, (44) 1035
Thrombus do not remove, (90) 1552
Thuringia, quack remedies made in, (108) 958
Thymin, action of diazobenzene sulfonic acid on (43) 1771
Thymus and asthma, (1[illegible]0) [illegible]0—ab
  and exophthalmic goiter, (63) 874—ab
  death mechanism (83) 2104—ab
  enlarged, congenital laryngeal stridor apparently due to, (175) 1188 (148) 1282
  enlarged with three lobes death of infant with (66) 792
  function of, (21) 952—ab
  hyperplasia of, in Addison's disease, (105) 877
  involution of (146) 1741—ab
  involution of in rabbits (119) 805
  persisting, importance of in exophthalmic goiter (111) 1289—ab
  treatment of disturbances in growth, (129) 180—ab
Thyroid accessory, at base of tongue (139) 78
  accessory intracystic papilloma of (76) 115
  adenoma of, (141) 1774
  and iodin (25) 73—ab
  and lymphatic system (127) 260
  and mental disease, (35) 551
  and parathyroid, *25
  and parathyroid, anatomy of, (72) 871
  changes in pituitary body after removal of, (18) 1111
  disease (78) 947
  feeding and complete thyroidectomy, influence of, on certain phases of intermediary metabolism, (48) 1771—ab
  extract in epilepsy and migraine, (78) 625—ab
  malignant tumor of, (71) 1278
  preparations, commercial and suggestions as to standardization of thyroid, *1387
  preparations action of, (65) 1470—ab
  rheumatism, (44) 713—ab
  surgery of and psychic factor in exophthalmic goiter, (75) 1375—ab
  transplantation of, (61) 1286—ab
Thyroidectomy complete and thyroid feeding, influence of, on certain phases of intermediary metabolism (18) 1731—ab
  partial, in exophthalmic goiter, (89) 1110—ab
  results of (95) 1619
  tetany following cured by subcutaneous injection of parathyroid emulsion (72) 1077
Thyroidism and exophthalmic goiter, blood findings in, (70) 1553—ab
Thyroiditis, acute, non-suppurating, (89) 1381—ab, (105) 1826—ab
Tibia and calcaneum, amputation above malleolus with, osteoplastic operation on, (46) 1822
  and fibula, compound comminuted fracture of, treatment *2057
  fracture of lower epiphysis of, (3) 1460
  fracture of spine of, (67) 441
  tubercle of, incomplete laceration fracture of, or defective growth? (52) 1892
Tick fever, African, diagnosis of, by examination of blood, (33) 1185—ab
Tinea favus pilaris, (74) 1642
  imbricata and treatment, (117) 1188
  intersecta, (118) 1188
Tinnitus and severe vertigo, destruction of labyrinth cure, (31) 1378
  painful, division of auditory nerve for, (26) 1645—ab
Tissue, embryonal, implantation of, (115) 359
Tissues, pigmented improved method of bleaching, (125) 1282
  viability of proteolytic enzymes in, (105) 869
Tobacco and eyes, (70) 76—ab
  and heart, (71) 76—ab
  and nerves (72) 76
  question, (50) 349—ab
Toe reflex, Bechterew's flexion, (88) 1288
Tongue, abscess on, operation, (59) 175
  accessory thyroid at base of, (139) 78
  amyloid tumors of, (108) 1741
  and mouth, cancer of, (30) 1730—ab
  black hairy, (91) 2092—ab
  carcinoma of, excision for, (74) 76
  cases, (138) 78
  tumor on frenum of, in infants, (89) 1649
Tonometer, application of, (134) 1743
Tonsil See also Tonsils
  and adenoid operations, results in, (11) 1277
Tonsil, anesthesia in and status lymphaticus, (65) 1185—ab, (105) 1752
  and systemic infection, (181) 171
  anthrax of, primary, fatal (107) 1041
  applied anatomy of (10) 1277—ab
  chronically inflamed tissue, importance of diagnosis and treatment, (152) 86—ab
  excision of, (6) 951
  faucial, severe primary hemorrhage following removal of, (94) 441
  faucial tuberculosis of, (98) 2005—ab (68) 2188
  forceps (154) 171, *1096
  from evolutionary point of view, (10) 706
  of dog, peculiar cells in and probable significance, (95) 1915
  sarcoma of, (5) 621
  submerged, and cervical adenitis and systemic infections, (76) 710
  tuberculosis of, (140) 78
Tonsillar ring and paranasal sinuses as portals of entry of infectious diseases (87) 2004
Tonsillectomy and adenoidectomy, technic of, (172) 1077—ab
  and its necessity, (84) 1281
  anesthesia local in (66) 1185—ab
  hemorrhage following, with cold wire snare (93) 441
  improved instruments for, (154) 171, (41) 173
  painless and adenectomy with quinin anesthesia, *696
  technic of (80) 1619, (87) 2004
Tonsillitis (42) 749 (85) 1186
  acute followed by poliomyelitis, (4) 1549
  follicular local use of acetylsalicylic acid in (59) 2185
  hemorrhage after necessitating ligature of common carotid, (45) 81
  pyocyanase in, (91) 1288—ab
Tonsils anatomy and surgery of, (24) 1467
  and adenoids, diseased, pathology and treatment of, (104) 352—ab
  and adenoids diseased removal of to rid throat of diphtheria bacilli, (66) 1280
  and adenoids diseased why they should be removed, (175) 1820
  and adenoids, surgical treatment of, (104) 1187
  and general health, (3) 705
  diseased total extirpation of, (113) 234
  faucial, (108) 1037
  faucial, chondroma and osteoma in, (142) 950
  faucial removal of (55) 1034
  faucial, removal of, for catarrhal deafness, (61) 624
  faucial anatomy physiology and removal, (113) 793
  faucial hypertrophied, and adenoids, etiologic factors in backward children (69) 441, (87) 869
  operations on dread of, (107) 1560
  treatment of hemorrhage after operation on (124) 534
  unhealthy, cause of influenza, (86) 1110
Toothache, conservative treatment of, (149) 171
Torticollis and asymmetry of face and skull, (83) 1194
  from inflammatory retraction of sternomastoid muscle, (54) 1380
  spasmodic, section of posterior primary divisions of upper cervical nerves in, (14) 1554
  treated by lengthening sternomastoid, (24) 1190—ab
Touch, sense of, value of, in operating, (95) 1560—ab
Toxemia, fatal, after administration of chloroform, (7) 1282
  from standpoint of perverted metabolism, (43) 167, (18) 1194—ab
  headaches due to, (66) 1035
  hepatic, fatal acetonemia, (141) 534
  in infant simulating cerebral hemorrhage, *1232
  obstetric, septic and anesthetic, *741
  of pregnancy, (182) 171, (40) 1284—ab, (62) 1552, (58) 1818—ab, (36) 1902, (30) 2006, (61) 2091
  of pregnancy and cancer, functions and relations of syncytium to, (50) 947—ab
Toxin and antitoxin of dysentery bacilli, (67) 954
  eclampsia, attempt to determine by experiment, (177) 359—ab
Toxins and endotoxins (115) 459
  antiseptic and germicidal properties of formaldehyd and their actions on, (79) 1466
  bacterial, negative results of attempt to induce endocarditis with (97) 956
Toxins bacterial, neutralization of, (59) 1409
Toxogenins and anaphylaxis (52) 712
Trachea and stomach, foreign bodies in, (11) 1519
  circular resection of, method of suturing, (72) 2097
  diverticula in, (110) 265
  esophagus and stomach direct inspection of, (15) 2186
  fibroma of, (132) 78, (99) 110
  larynx and esophagus direct examination of, (25) 1467, (9) 2095
  of child removal of grain of corn from, (107) 1552
  or larynx, laryngostomy and tracheolaryngostomy in severe chronic stenosis of, (59) 1079
  or larynx stenosis of laryngostomy and tracheolaryngostomy in cure of, (50) 1280
Tracheobronchoscopy, (24) 948 (178) 951
  esophagoscopy and gastroscopy (24) 449 (19) 622
Tracheolaryngostomy and laryngostomy for stenosis of larynx or trachea, (35) 537, (59) 1079, (50) 1280
Tracheotomy, ultimate results of, (86) 579—ab
Trachoma, (86) 259, (103) 1904
  etiology, prevention, pathology, treatment and cure of (99) 1466
  picric acid in, (142) 268
  surgical treatment of, (64) 441
  symptoms, cause and differential diagnosis, (93) 1819
  treatment of, (73) 972 (86) 1076
Traction diverticulum of esophagus, pathogenesis of, (97) 265
Trade importance of learning one in army, (16) 871
Traditions of medicine, unreasonable, (18) 707—ab
Training, a prophylaxis for nervousness, (82) 351
  for anesthetists, necessity for better, (74) 1380
Transfusion adaptability of donor's to receiver's blood in, (53) 947—ab
  orthodiagraphic, apparatus for (72) 1380
  modified cannula for, according to Crile, (105) 2099
  venous after expulsion of blood, local anesthesia of limb by, (81) 1040—ab
Transillumination of orbit from nasopharynx examination of fundus of eye by, ((76) 356—ab
Transplantation of blood vessels and organs permanent results of, (79) 2194—ab
  of blood vessels, organs and limbs, *1662
  of new growths of animals appearance of heteroplastic tumors in, (5) 865
  of vessels and anastomosis (141) 268
Transportation of disabled soldiers on regulation litter, using a mounted soldier's equipment, (122) 950
Transudates and exudates, differentiation of, (121) 1384
  and exudates, differentiation of, by Rivalta test, (137) 718—ab (94) 956—ab
Trauma anatomic findings in epilepsy after, (99) 1472—ab
  and abnormal mentality, (73) 76
  and appendicitis, (68) 264 (78) 1040, (83) 1110—ab
  arrest of hepatic hemorrhage due to, (34) 1731—ab
  and spinal cord tumor, (139) 170
  non penetrating, intracranial, operation for, (34) 790—ab
  of brain, (74) 1818—ab
  slight, of joints clinical and medicolegal significance of, *2211
Traumatisms, indications for immediate operation following, (65) 1642
  of biliary passage operative treatment of, (51) 1285—ab
  severe, and fractures, (55) 257—ab
Travel observations, (145) 870
Travels, southern, (64) 165
Treatment case, ophthalmic, pocket emergency, *1010
  drug versus osteopathic *2135
  extension, technic of, (98) 1530
  medicinal, of disease, sufficiency of official drugs and preparations in *1477
  open air, (10) 944
  prophylaxis v, (4) 1930
Tremor, ergographic study of, (123) 1290, (69) 1470
  tachycardia and exophthalmos following extirpation of tuberculous glands in neck, (27) 2183
Trephining, palliative for choked

- Treponema-pallidum, diagnostic importance of, (155) 1188
  - See also Spirochæta pallida
  - secondary propagation of, and necessity for arresting *tryponema en route*, (45) 873
- Treponema pertenuis of yaws and production of disease in monkeys, (123) 950—ab, (108) 1187—ab
- Trial case, new, (133) 1037
- Trichiasis, (105) 169
  - treatment of, (33) 946—ab
- Trichinelia spiralis, microscopic anatomy of, (48) 1903
- Trichinosis, (109) 78
  - and eosinophilia, (110) 78—ab
  - sporadic: diagnosis of, (59) 947, (4) 2088
- Tricuspid incompetency and compensation, (132) 267
- Trinidad and Venezuela, spread of plague in, (17) 706
- Triplet pregnancy and site of placenta, (91) 956
- Tronchin, Theodore, (1) 255
- Trophic lesions occurring symmetrically on extremities, (8) 2234
- *Tropical diseases and Mississippi valley*, (20) 1550—ab
  - medicine, Porto Rico as a field for research in, (16) 166
- Tropics, health in, (26) 712—ab
  - *lymphatic diseases in*, (20) 1906
  - mosquito destruction in, *2203
- Trout, threadworm parasitic in swimbladder of, Cystidicola farionis, Fischer, (52) 1039
- Trunk and abdomen, body elevator and support for operations on, *126
  - does weight of, influence shape of pelvis? (114) 1117
- Trypanocides and atoxyl, comparison of, (43) 1039
- Trypanosoma lewisi, life history of, (39) 1038
- Trypanosome affections, acidity and alkalinity of blood in, (41) 1038—ab
  - infection and complement binding, (104) 1041
  - *toxin and resulting parenchymatous keratitis*, (74) 1911
- Trypanosomes, effects of therapeutic agents on, (40) 1038
  - resistance of, to atoxyl, (80) 539
- Trypanosomiasis, experimental, complement-binding in, (176) 87
  - experimental, disappearance of complement in, (106) 1741
  - gland palpation in diagnosis of, (34) 1038
  - incidence and prophylaxis of, in Northeastern Rhodesia, (26) 537
  - microscopic diagnosis of, (35) 712
  - non-specific disappearance of opsonin in serum of animals with, (113) 1741
  - of domestic stock in northwestern Rhodesia, (27) 537
  - report of commission sent to Senegal to study, (60) 1039
- Trypsin, antitryptic power of blood serum in cancer, (89) 83—ab
- Tube, tracheal, with device to protect physician against coughed out material, (74) 1287
- Tubercle-Bacilli: See Bacilli.
- *Tubercle, solitary, found in optic thalamus in hemichorea*, (152) 1475
- Tuberculids and lupus erythematodes, (109) 1116
- Tuberculin, absorption of, from vagina, (125) 1742—ab
  - administration of, in pulmonary tuberculosis, (3) 1906—ab
  - and phlyctenular eye affections, (103) 1383—ab
  - antibodies in tuberculous serum that in connection with, bind complement, (58) 1193
  - as adjunct to home treatment of phthisis, (7) 1031—ab
  - Béraneck's, and tuberculol, (63) 1910
  - cutaneous and percutaneous reaction in adults, importance of, (147) 86
  - cutaneous reaction, (22) 348, (91) 540—ab, (103) 541, (79) 710, (62) 791, (49) 873—ab, (47) 1192—ab, (93) 1472, (110, 112) 1741—ab, *1756
  - cutaneous, reaction, and subcutaneous, (104) 1383
  - cutaneous reaction, in children and infants, (91) 540—ab, (103) 541, (62) 791, (94) 1559, (82) 1912—ab
  - cutaneous reaction, in measles, (61) 798—ab
  - cutaneous reaction, in surgical affections, (95) 358
- Tuberculin cutaneous reaction, with tubercle bacilli *substance precipitated* with iron, (72) 631
  - diagnostic and therapeutic use of, (8) 530—ab
  - diagnostic and therapeutic value of, in tuberculous eye disease, (121) 1282
  - experimental reasearch on reaction to, (100) 83—ab
  - fat-free, diagnostic inoculation with, (107) 449
  - immunity, (87) 1912—ab
  - immunization, treatment and prevention of tuberculosis by, (53) 791—ab, (123) 1188—ab
  - in diagnosis and treatment of tuberculosis, (23) (89) 1904
  - in diagnosis of pulmonary tuberculosis, (2) 1105—ab
  - in dysmenorrhea and amenorrhea, (117) 2012—ab
  - in genitourinary tuberculosis, (37) 80
  - in orthopedics, (114) 1553—ab
  - in pulmonary tuberculosis, (26) 348—ab, (64) 874—ab, (156) 950, (97) 1382—ab
  - injections, repeated, effect on lymphatic organs, (11) 1031
  - inunction, (12) 166—ab
  - ocular and cutaneous reactions, (22) 348
  - *ocular cytoreaction, beginning of*, (121) 1042
  - ocular reaction, (130) 78, (68) 82—ab, (170) 87, (13, 14) 166, (22) 348, (58) 350—ab, (114) 352, (30) 354, (16) 438—ab, (30) 537, (88, 90,) 540—ab, (115) 634, (32) 639—ab, (120) 870, (107, 108) 877, (17) 952, (95) 956, (8, 9, 10) 1031, (102, 147) 1037, (55) 1039, (41) 1112, (86) 1115, (93) 1195, (99) 1196, (82) 1376—ab, (84) 1381, (104) 1644, (118) 1651, (20) 1736, *1756, (28) 1816—ab, (69) 1818, *1836, (85) 1904
  - ocular reaction and allergy test, (87) 176
  - ocular reaction, cytologic findings in, (74) 264—ab
  - ocular reaction, dangers of, (90) 447, (109) 717—ab, (11) 871—ab, (141) 1043, (98) 2011—ab
  - ocular reaction in cattle, (22) 1184
  - ocular reaction, in guinea-pigs, infected with human, bovine, or avian tubercle bacilli, (16) 1901—ab
  - old, absence of reaction to, in persons free from tuberculosis (63) 264—ab
  - reaction and nervous system, (97) 1650—ab
  - percutaneous reaction, (108) 717, (49) 873—ab
  - reaction and complement-binding tuberculosis antibodies, (67) 630
  - reaction, intradermal, (48) 2007—ab
  - reaction, local, in diagnosis, (68) 1470—ab
  - reaction, pathologic importance of, (114) 717
  - reaction, rôle of antibodies in, (116) 717
  - Reaction, v. Pirquets': See Tuberculin *cutaneous reaction*
  - reactions, cutaneous and ocular, results of, (47) 1192—ab
  - reactions, diagnostic utilization of, (158) 1475—ab
  - reactions in children, comparative diagnostic importance of, (111) 1741—ab
  - reactions, specificity of, (75) 875
  - salve in differentiation and treatment of lupus, (61) 174—ab
  - salve reaction, Moro's, (76) 1558
  - significance of binding of complement for theory of action of, (107) 1383
  - temporary improvement in leukemia under, (70) 174—ab
  - therapy, new points of view in, (62) 874—ab
  - treatment for other than pulmonary tuberculosis, (3) 944
  - treatment, importance of opsonins in, (108) 2011
  - treatment, improved technic for, (80) 1194
  - urethral reaction, (105) 1383—ab
- Tuberculol and Béraneck's tuberculin, (63) 1910
- Tuberculo-opsonic index, *1756
- Tuberculosis, (28) 444—ab, (130) 717—ab, (29) 872, (69) 948, (92) 1281, (3) 2233—ab
  - acute, simulating typhoid, (55) 1113—ab, (46) 1908—ab
- Tuberculosis, administrative treatment *of*, (9) 1111—ab
  - air baths in, (101) 1560
  - alarm zone in, (53) 2007
  - and cancer, descendants of persons who have died of, (100) 1382—ab
  - and cancer, hemolysis in, *2036
  - and diphtheria, hematopoietic organs in, eosinophilic cell as occurring in, (104) 869
  - and heart disease in relation to pregnancy, (79) 2091
  - and human and bovne tubercle bacilli, (81) 2194—ab
  - and infectious diseases, deviation of complement with tubercle bacilli derivatives as antigen in, (106) 1383
  - and insanity, inheritance of, (19) 628
  - and lobule of ear, (108) 177
  - and orthotic albuminuria, (31) 349-ab
  - and poverty, (21) 2001
  - and septic conditions of kidney, (40) 791—ab
  - and tubercle bacilli in man and cattle, (56) 2096—ab
  - and tumor, in same organ, (124) 1474
  - anemia, secondary of, treated with hypodermics of iron, (9) 1461
  - animal, what shall we do with? (68) 1375
  - antibodies and immunity, (67) 630, *(58) 1193, (100) 1650*
  - apical, chondrotomy for, (73) 1911-ab
  - apical, laws regulating development *of secondary affections* with, (78) 1825—ab
  - apparently cured by accidental inhalation of lime dust, (54) 1817
  - articular rheumatism due to, (101) 1741—ab
  - as state problem, (54) 2090
  - at high altitude, blood pressure in, (18) 944—ab
  - at what age periods and in what *measure has reduction of mortality rate from manifested itself in* New York City during past 40 years? (13) 2088
  - attitude of physician to patient in, (116) 78—ab
  - beginning of ocular tuberculin cytoreaction in, (121) 1042
  - bone, blastomycosis resembling, (117) 1553—ab
  - bovine, (130) 1644
  - bovine, and certified milk, (143) 1906
  - cause of failure in treatment of, (19) 1901
  - causing hypertrophies of bones and joints, (47) 1822
  - chronic endocarditis due to, with tubercle bacilli, (58) 1738
  - class, Troy, report of, (102) 1187
  - climate as factor in, (167) 950, (76) 1186
  - clinical forms of hemoptysis in, (17) 628
  - communicability of, (128) 1644
  - comparative pathology of, (82) 2009—ab
  - complement-binding antibodies in, (123) 2197
  - complicating pregnancy, (23) 439, (18) 622
  - *coordination of preventive measures*, (15) 1639—ab, (7) 1735—ab
  - crusade, (153) 1188, (112) 1733
  - crusade in New York City, (9) 1639—ab
  - Cuguillère's serum in, (14) 1278
  - cutaneous, x-ray in, (27) 261—ab
  - dangers of excessive sunlight in, (13) 1106—ab
  - diagnosis and treatment of, (122) 78
  - diagnosis of, early, (76) 1552
  - diagnosis, prognosis and treatment of joints in, (86) 1819
  - diet in, (75) 1186
  - early and malaria, differentiation of, (11) 1371
  - early positive diagnosis of, and tuberculin in diagnosis and treatment, (89) 1904
  - eastern, and Colorado, (17) 622
  - educational campaign, universities and colleges as factors in, (92) 1904
  - *electrotherapy in*, (17) 2234
  - embolic pneumonia due to, following massage of tuberculous glands in neck, (90) 1559
  - enzymes of tissues in, (26) 1184
  - etiology and diagnosis of, (133) 1734
  - eucalyptol, injections in, (64) 1557
  - *everyday fight on*, (76) 351—ab
  - exhibit, stroll through, (123) 1644
- Tuberculosis, experimental, of kidney with *induced venous* hyperemia, (102) 266
  - extinction of, impediments to progress in, (54) 1185
  - family, (5) 1729—ab
  - frequency of, in employés of sugar refineries, (41) 712
  - frequency of, in laundry employés, (46) 355
  - function of health boards in control of, (83) 1466
  - general management of, (53) 350
  - genital, *968, (111) 1733
  - grinders', pathology of, (18) 1038
  - hemoptysis in, action of hemostatics in, (39) 1379
  - history causes and prevention of, (52) 350, (86) 1040
  - home and sanatorium treatment of, (46) 2188
  - home treatment for, (151) 78, (148) 950, (8) 1277—ab
  - human and animal, and transformation of human and other types of tubercle bacillus, (1) 2088—ab
  - human and bovine, (2) 870, (70) 948, (85) 1040, (91) 1110—ab, (77) 1186—ab, (6) 1189—ab, (15) 1644—ab, (93) 1733—ab, (127) 1914
  - *ileocecal, causing tumor and intestinal stenosis*, (45) 2095—ab
  - immune body, (81) 2194
  - immunity and intestinal infection, (8) 1729—ab
  - in children and tuberculous cows, (22) 73
  - in children, pathology of, (56) 76-ab
  - in Connecticut, (134) 534, (12) 622-ab
  - in Illinois, treatment of, (75) 533
  - in infancy and childhood, (71) 441
  - in infants, laboratory diagnosis of, (57) 76
  - in lime workers, (14) 2093—ab
  - in Minnesota, statistics of, (136) 793
  - in State Prison, So. Car., (127) 1111
  - *in syphilitics, evolution* and treatment of, (43) 1822—ab
  - incipient apical, chondrotomy of first rib in, *(106) 449—ab*
  - incipient, new methods for diagnosing, (57) 1647—ab
  - incipient pulmonary, morbid local tenderness a sign of, (63) 1557—ab
  - increasing importance of, as cause of ocular disease, new *methods* of diagnosis and treatment, (120) 1282
  - infection, public education against, (91) 1904
  - infection through milk, (85) 793
  - influence of Colorado climate on, (111) 1644
  - influence of heredity on, (4) 2189
  - infrequency of hemoptysis in *children with*, 915—ab
  - internal surgical, Marmorek's serum in, (135) 1474—ab
  - joint, treated with Marmorek's serum, (116) 1552—ab
  - joint, treatment of, (67) 709—ab, (75) 1110
  - keratitis due to, (70) 1642
  - landmarks in study of, (16) 172—ab
  - laryngitis due to, prognosis and treatment, (62) 1818—ab
  - latent endothoracal glandular, diagnosis and specific treatment of, in children, (106) 1473—ab
  - league, South Carolina, (125) 1111
  - lesion of, effect of injected leucocytes on, (87) 77
  - local pigmentation in, 399—ab
  - Maragliano's treatment of, (151) 1044
  - Marmorek's serum in, (106) 2194
  - medicinal treatment of, as interpreted by Sajous, (73) 1642
  - meningitis due to, (150) 1037, (77) 1643
  - [illegible] due to cytodiagnosis in [illegible] epidemic va-
  - [illegible]
  - mercury in, (48) 75—ab, (15) 166—ab, (7) 944—ab, (43) 1103—ab, *1854, (38) 2187—ab
  - *methods of Henry Phipps Institute* for, (148) 534
  - *mixed infections in*, *2047
  - modern conception of, and its treatment, (22) 256
  - mortality from, causes of decline of, in Berlin, (40) 712—ab
  - necessity of state sanitarium for treatment of, (150) 950
  - negative diagnosis of, (80) 1289
  - new discoveries to be made in, (118) 626

Tuberculosis ocular reaction to tuberculin in, (150) 78, (68) 82—ab, (170) 87, (13 14) 166, (22) 248, (58) 250—ab, (111) 352 (30) 354, (10) 458—ab (90) 537, (88 90) 540—ab (32) 629—ab (115) 634, (120) 870 (107 108) 877, (17) 952, (95) 954 (8, 9 10) 1031, (102, 147) 1037, (55) 1055, (41) 1112 (86) 1115 (35) 1195 (91) 1196, (82) 1370—ab (84) 1581, (104) 1644, (118) 1651 (20) 1776 *1758, (28) 1816—ab (69) 1818 *1856 (88) 1904
  ocular reaction to tuberculin in dangers of, (90) 447, (109) 717—ab (11) 871—ab (141) 1013 (98) 2011—ab
  ocular reaction to tuberculin in guinea pigs (16) 1901
  of ankle operative treatment of, (75) [illegible]
  of bladder (18) 1770 (23) 1901—ab (70) 2007—ab
  of bone (68) 948—ab
  of bone and joints opsonic therapy in (72) 2[illegible]
  of brain with complete paralysis of both third nerves (77) 1821
  of bronchial glands and [illegible] x-ray diagnosis in (46) 1192—ab
  of cervical glands surgery of, (127) 1644
  of cervical lymph nodes early operation for (74) 1023
  of ear, (12) 1278—ab
  of ear inoculation treatment of, (35) 80
  of Eustachian tube, (27) 952
  of eye, (172) 1037, (122) 1282
  of eye diagnostic and therapeutic value of tuberculin in (121) 1287
  of faucial tonsil (98) 2095 (68) 2188
  of female genital (57) 867—ab
  of gastrointestinal tract, (59) 867—ab
  of genitourinary organs tuberculin in (77) 80
  of kidney (77) 875—ab, (78) 1186, (80) 1191—ab
  of kidney experimental with ligated ureter, (114) 359—ab
  of kidney stone and perinephric abscess (141) 253—ab
  of larynx, (80) 259 (27) 628, (31) 866—ab (121, 157) 1037
  of larynx and surgical emergencies (106) 1552
  of lung x-ray diagnosis of with demonstration of skiagrams and new orthodiascope (64) 1904—ab
  of mesenteric glands, (32) 866—ab, (73) 114 ab
  of mesenteric glands surgical treatment of, (34) 1468—ab
  of mucous membrane of mouth, (51) 1553
  of nose inoculation treatment of, (35) 80
  of peritoneum retroperitoneal tumor connected with kidney, simulating ascites from (2) 1038
  of pharynx (62) 446
  of prostate, simple chronic symptomatology diagnosis and treatment of (86) 948
  of pulmonary glands x-ray diagnosis of in children with spondylitis (69) 2097
  of seminal vesicles (67) 918—ab
  of sigmoid causing stricture, (84) 1040
  of skin (72) 441
  of spinal cord and medulla, course of cerebello olivary fibers in, (43) 445
  of spine treatment of (35) 1467
  of stomach tuberculous cavities of liver (142) 1111
  of suprarenals and congenital syphilis (94) 176—ab
  of testicle (65) 441
  of testicle, diagnosis and indications for operation (58) 867—ab
  of throat inoculation treatment of (35) 80
  of tonsil (140) 78
  of upper air passages, seashore in, (127) 355
  of upper air passages treatment of (17) 255
  of upper respiratory and alimentary tract (62) 1251—ab
  of urinary tract prognosis in, (18) 2093
  of uterus and Fallopian tubes in connection with myoma, (96) 1826—ab
  opsonic index in (31) 80 (74) 533, (8) 626—ab (61) 874, (117) 1560
  opsonins in (108) 2011
  opsonins and vaccines in, (74) 533
  other than pulmonary treated with tuberculin, (3) 944
Tuberculosis outdoor life and rest in, (61) 1165
  overcoming predisposition to and danger from infection during childhood (9) 2185—ab
  oxygen in peritonitis due to, (15) 865—ab
  passive congestion in (35) 1776
  pathology of, (120) 717—ab, (76) 867
  patient, instructions which should be given on making change of climate (48) 1571
  patients necessity of providing employment for (9) 1277
  patients, necessity of disinfection after death or removal of, (16) 1184
  patients psychologic tests made on, (3) 1371—ab
  pericarditis due to (11) 1187
  peritoneal, (70) 1[illegible]
  peritonitis due to (6) 2291
  peritonitis due to and treatment with iodized gelatin, (131) 174[illegible]—ab
  peritonitis due to, medical treatment of, (172) 1562—ab
  peritonitis due to, statistics of from Johns Hopkins Hospital, (42) 1464—ab
  peritonitis experimental, due to, (126) 1644
  persons free from absence of reaction to old tuberculin in, (63) 264—ab
  physicians in *Colorado for,* (115) 1644
  plea for more sanatoria for poor in all stages of (7) 348
  popular lecture in crusade against, (3) 1729
  potassium iodid in, (140) 78
  prephysical signs of, *in children,* *1752
  prevention of, (146) 950, (125) 1644
  prevention of, and outdoor life, (47) 1185
  primary in a hernia, (58) 1350—ab
  primary intestinal, in adults, (105) 1560—ab
  problem and national department of public health in relation to, (20) 1462—ab
  problem *in Philippines elimination of intestinal parasites first step in its solution,* (12) 2233—ab
  prophylaxis of, and treatment of early cases, (124) 1771
  protection of cattle against, (121) 259—ab
  pulmonary (27) 441, (1) 626—ab, (150) 870
  pulmonary and laryngeal adjuvants to nutrition and fresh air in, (55) 1465—ab
  pulmonary, and pleurisy (9) 166
  pulmonary antiseptic vapors in, (31) 1646—ab
  pulmonary, Arneth's classification of neutrophile leucocytes and its application in, (22) 2006—ab
  pulmonary, artificially induced pneumothorax in (66) 1557—ab, (47) 2095—ab, (85) 2098—ab
  pulmonary class method of treatment, (6) 1644
  pulmonary, Colorado and eastern, (22) 439
  pulmonary, comparative value of change of climate and treatment in sanatoria near at hand, (3) 2088—ab
  pulmonary, corn oil in *39
  pulmonary, diagnosis and treatment, (150) 78, (96) 176—ab
  pulmonary diagnosis early, of (76) 169 (34) 629 (3) 1183—ab, (97) 2092 (45) 2188
  pulmonary, early symptoms of, (81) 259
  pulmonary, etiology of, (9) 535—ab (16) 536—ab
  pulmonary, expectant treatment of, (4) 1729—ab
  pulmonary, graduated labor in, (68) 1904
  pulmonary, home treatment of, (159) 950
  pulmonary, in school children, (30) 1112—ab
  pulmonary, incipient diagnosis of, (53) 1185, (96) 1195—ab
  pulmonary, incipient, x-ray diagnosis of, (83) 715—ab, (100) 949
  pulmonary, influence of pleuritic effusions on course of, (64) 1910—ab
  pulmonary, is opsonic treatment useful in? (31) 629—ab
  pulmonary, medical treatment of, (111) 169
  pulmonary, opsonic index in, (31) 80, (8) 626—ab
Tuberculosis pulmonary, plea for more thorough and optimistic treatment of in private practice, (131) 1282
  pulmonary, pneumococcus in blood in, (60) 1823—ab
  pulmonary, relative and absolute signs of, (105) 1187—ab
  pulmonary, septicemic (46) 873—ab
  pulmonary, symptomatic treatment of, (83) 2098—ab
  pulmonary, treatment of, (59) 76, (75) 715, (65) 1557—ab
  pulmonary, treatment of, along North Sea, (55) 2096
  pulmonary treatment of hemoptysis in (73) 629
  pulmonary, *treatment of in Illinois,* (77) 441—ab
  pulmonary, tuberculin as adjunct to home treatment of, (7) 1031—ab
  pulmonary, tuberculin in diagnosis and treatment, (26) 348—ab (61) 874 (136) 950 (2) 1105—ab, (97) 1582—ab, (3) 1906—ab
  pulmonary, unilateral, operative mobilization of chest wall and lung in, (99) 1116, (53) 1909—ab
  pulmonary, vascular origin of, (60) 2096
  pulmonary, what can we do to lessen death rate of, (52) 1641
  pulmonary, x-ray diagnosis of (108) 949—ab (158) 1044, (14) 1283—ab
  pyonephrosis due to, without out*ward manifestations,* (72) 1114—ab
  Red Cross in war against, (11) 2088—ab
  renal, (16) 1641
  renal, complete nephro ureterectomy for in women, *459
  rest and exercise in (1) 2233—ab
  salpingitis due to, (82) 1110
  sanatorium treatment for, (14) 944
  sanitarium for West Virginia, (153) 950
  sclerous atrophic nephritis due to, (57) 1286—ab
  sea bathing in (112) 2099
  septicemic, subacute forms of, (48) 873—ab, (64) 2008
  serodiagnosis of *1756
  serum treatment of, and endobacillary albuminoids, (86) 1740—ab
  skin and ocular reactions to tuberculin, (47) 1192—ab
  skin reaction to tuberculin in children and infants (91) 540—ab 710 (62) 791, (49) 873—ab, (47) 1192—ab, (93) 1472, (110, 112) 1741—ab *1756
  skin reaction to tuberculin in, in children and infants (91) 540—ab (103) 541 (62) 791 (82) 1912—ab
  skin reaction to tuberculin in, in measles, (61) 798—ab
  softened, of cervical glands possibility of avoiding scar formation in (1) 2000—ab
  specific prophylactic treatment of, technic of, (129) 717
  specific therapy in (121) 78
  state and municipal control of, (152) 78
  sunlight and solar therapy in, (77) 710
  surgical (39) 2119
  surgical especially of bone, (47) 2186
  surgical, Marmorek's serum in (88) 1913—ab
  surgical treatment of, by iodoform, glycerin and hyperemia, (15) 2093
  therapy modern explanation of seeming paradoxes in, (12) 1106—ab
  toxic non bacterial cutaneous, (113) 1042
  transmission and methods for control of, (82) 1166
  transmission, experimental, from man to cattle (48) 2095
  transmission of, (2) 72—ab, (58) 76—ab
  treated with tuberculosis immune blood, (76) 1471—ab
  treatment of, in private practice, (21) 866
  treatment of according to Brehmer's principles (85) 447—ab
  tuberculin immunization in treatment and prevention of, (53) 791—ab, (123) 1188—ab
  tuberculin reactions in, diagnostic utilization of, (158) 1475—ab
  urinary, diagnosis of, in children, (39) 1821—ab
  use and abuse of drugs in, (38) 1108
  vaccination of cattle against, (94) 869, (47) 1738—ab
  vaccine therapy in, (2) 348, (47) 2007
Tuberculosis, virus Much's granular form of, (116) 1042
  vital points in, (52) 1465—ab
  with and without tubercle bacilli in sputum, (128) 1828—ab
  work in Grand Rapids, (113) 1466
Tuberculous See also Consumptive
  affections, sea bathing in, (112) 2099
  allergy, temporary suspension of during measles, (118) 266
  disease of hip, (8) 261—ab
  glands of neck, tachycardia, tremor and exophthalmos following extirpation of, (27) 2186
  joint disease treated by open cut and exposure to sunlight, (31) 324
  sinuses, fistulous tracts and abscess *cavities,* (68) 709—ab
  sinuses, treatment of, (60) 76—ab
Tubes See Fallopian Tubes
Tumor, abdominal pelvic and labial (7) 2234
  and stenosis, ileocecal tuberculosis causing pathology and treatment, (45) 2095—ab
  and tuberculosis in same organ, (124) 1474
  brain, *1057, (71) 1375—ab
  brain, diagnosis of (155) 86—ab
  brain localized and removed, symptomology of lesions in parietal lobe, (4) 1108—ab, (62) 1109—ab
  brain successful removal of, (98) 1196—ab
  brain, with autopsy (14) 1032
  congenital sacral (51) 630
  cystic of suprarenal body, (11) 253
  dermoid, of conjunctiva (12) 438
  gangrenous of leg, in natives of east Africa (105) 1650
  malignant of thyroid, (31) 1278
  mediastinal, unusual, (45) 445
  meningeal compressing cerebellum, (137) 170
  mixed of lip (21) 2236
  of carotid gland, (126) 793
  of frontal lobes, with symptoms simulating paresis, (73) 792
  of ovary, typhoid suppuration of, (117) 1117
  of scalp, giant, (91) 1913—ab
  of spinal cord and suppurative pachymeningitis externa, (80) 2091
  on frenum of tongue in infants, (89) 1649
  parathyroid like, (110) 869
  *pelvic, simulated by enlarged wan*dering spleen, (20) 2093
  placenta, (56) 1113
  primary of pleura, (121) 634
  retroperitoneal, connected with kidney which simulated ascites from tuberculous peritonitis, (2) 1038
  sarcomatous, of ileum, removed by resection of bowel and end to end anastomosis, (39) 1112
  spinal cord and trauma, (139) 170
  symptomatology of, in cerebellum and cerebellopontine angle, (81) 1825—ab
  syphilitic, in stomach (121) 178
  tuberculous, of sigmoid causing stricture, (84) 1040
Tumors See also Neoplasms
  amyloid, of tongue, (108) 1741
  anatomically malignant and dubious, results of ovariotomies for, (91) 716—ab
  bladder in children, (76) 1912—ab
  brain, in children, (83) 82—ab
  brain ocular symptoms of, (85) 1036—ab
  breast, preliminary incision of, and bearing of on plastic resection of breast, (16) 79
  cervical simulating enlarged glands with laryngeal paralysis, (22) 1467
  classification of, (80) 869
  congenital malignant, (70) 1286—ab
  cystic, of pancreas, (114) 1377
  embryonal ovarian, (111) 359
  experimental transmissible (95) 2099
  fluctuating, of female pelvis, diagnosis and treatment, (139) 1188
  from inflammation, (46) 1646—ab
  giant of small pelvis removal of, with resection of pubic bone and symphysis (65) 2193
  heteroplastic in transplantations of new growths of animals, (5) 865
  histologic diagnosis of, *as basis for* operative measures, (115) 1560
  in cerebello pontine angle, and multiple fibromatosis (109 2194
  in cerebellum, pathology of, (43) 953—ab
  inflammatory, in abdominal wall, following appendicitis (69) 2193
  in corpus callosum, (127) 178
  inoperable, treated with radium, (74) 798
  intra abdominal, *diagnosis of,* (25) 1730

Tumors, malignant, influencing of, by atoxyl and foreign albumin, (53) 797—ab
  malignant, novel method of operating for removal of, (3) 2092—ab
  malignant, proteolytic cellular activity of, (110) 1043
  mediastinal, (102) 352, *897
  mixed, of cheek and lips, (43) 629
  mouse, influence of scarlet oil on, (120) 2197—ab
  of adrenal gland, primary, in children, (35) 439
  of adrenal origin; hypernephroma of kidney, (1) 1460—ab
  of bladder, (131) 626, (15) 2186—ab
  of bladder, benign, intravesical removal of, (95) 2092
  of bladder, transperitoneal removal of, (41) 791—ab
  of breast in childhood, (31) 2090—ab
  of cerebellum, diagnosis, surgical treatment and symptomatology of, (85) 1649—ab
  of heart, especially myxomas, fibroelastomyxoma of heart and casuistic study of tumors of, (103) 1913—ab
  of heart, primary, (118) 1744—ab
  ovarian, complicating pregnancy and puerperium, (90) 169—ab
  ovarian unilateral, and menstruation, (100) 1472
  puncture of corpus callosum in hydrocephalus, epilepsy and, (110) 1042—ab
  results of application of special histologic methods to study of, (21) 1184—ab
  transplantable, genesis of, reactive cell proliferation in white rat and, (27) 2089
Tunica-vaginalis, coexistence in, of uterus, tubes, and ovaries, (63) 81
  inversion of, for radical cure of hydrocele, (48) 623
Tunis and Algeria, plague in, in 1907, (60) 1469—ab
Turbinate, middle, exophthalmos of three years' duration cured by removal of, (134) 1037
  removal, rapid, effective and least bloody method of, (28) 1730—ab
Turbinectomy, submucous, (137) 78
Turbinotomy and results, (123) 1037
Turgosphygmography and finger plethysmography, (53) 2096—ab
Twins, undeveloped, birth of, complicated by heart disease, *316
Tympanum: See Membrane, Tympanic
  conservative treatment of chronic suppuration above, (88) 799—ab
Types, early clinical, of certain diseases, (31) 1555—ab
Typhobacillose, (5) 2093—ab
  Landouzy's, experimental reproduction of, (39) 797
Typhoid, *194, (91) 352, (27) 799, (89) 1036, (100, 107) 1110
  acute cholecystitis in, second week of, (37) 1640
  acute dilatation of stomach complicating, (33) 2089
  acute suppurative perforating appendicitis, complicating, (27) 1462
  acute tuberculosis simulating, (55) 1113—ab
  agglutination test, simple, (53) 1374—ab
  and colon bacilli, virulence enhancing property of bile in, (68) 1738
  and meningitis, (98) 716
  and paratyphoid in Palatinate in 1903-1906, (84) 1194
  apyrexial, (11) 164
  bacilli carrier, problem of, experiments on immunity in carriers, (18) 1735
  bacilli carriers, (3) 137—ab, *981, (31) 1190
  bacilli carriers, effective periods of, (11) 2235
  bacilli carriers, complement binding substances in blood serum of, (145) 86
  bacilli, dacryocystitis due to, (35) 946
  bacilli, discovery of, in cerebrospinal fluid in typhoid, (67) 714
  bacilli, scanty, detection of, (78) 799—ab
  bacilli in blood in absence of typhoid fever, (156) 86—ab
  bacilli, pepsin, digested toxic and immunizing action of, (58) 2096
  bacilli, pure culture of, cholecystostomy with recovery of, from contents of gall bladder, (37) 1640
Typhoid, bacteriologic diagnosis of, (95) 447, *978
  blood cultures in, (33) 866—ab
  blood in, (105) 800
  blood in, determination of antigens and antibody in, (65) 1738
  cholecystitis, treatment of, (17) 263—ab
  complement deviation test in, (62) 1380
  complicated by double suppurative parotitis in child, *2216
  complicated with gangrene of extremities, (165) 87—ab
  complications, (90) 352—ab, (61) 1375
  complications, prophylaxis, prognosis and treatment, (89) 352—ab
  diagnosis of, (96) 632, (110) 717
  dietetic and injection treatment of, (69) 792—ab
  and contacts, (6) 2088—ab
  differentiation of outbreaks of, due to infection by water, milk, flies
  endemic, from bacilli carrier, (77) 1825—ab
  empyema of gall bladder with stone, following, (160) 1188
  epidemic of, at Iloilo, P. I., (82) 169
  epidemic, small, (84) 169
  epidemic and contact infection, (83) 169
  epidemiology and bacteriology in fight against, (58) 446
  epidemics, responsibilities of municipalities in Ohio valley for, *1496
  etiology and bacteriology of, (67) 868
  fatal, contracted in hospital, (68) 2008
  hemorrhagic complications in, (127) 1731
  history, etiology and pathology, (36) 1185
  history of, on U. S. S. Connecticut, (121) 950
  in child, aphasia complicating, (39) 1185—ab
  in child, empyema and gangrene of lung complicating, (61) 257
  in children, retention of urine in, (37) 712
  in Hindoo army, (46) 1112
  infection, transplacental, secondary nephritis with case of, (49) 1817—ab
  laryngeal complications in, (69) 1904
  located in kidneys, (115) 2100—ab
  management of, (74) 948, (37) 1185
  metabolism in, *947
  milk-borne, outbreak of, extensive, (2) 255—ab
  milk-free fluid diet and rectal irrigations in, (18, 19, 20) 73—ab
  nitrate of silver in, (89) 1281—ab
  nourishment of patients during, (80) 1732—ab
  sera, amboceptors and complement in, (44) 1464
  pathogenesis and specific treatment of, (19) 1730
  pathology of, (19) 1640
  perforation of intestine in, (138) 1734
  prevention of, 835—ab
  preventive inoculation against, in British army, (47) 623—ab
  prophylaxis and diet in, (106) 1377
  prophylaxis and treatment, (136) 626
  spine, *406
  sulphocarbolates in, (101) 949
  suppuration of ovarian tumor, (117) 1117
  toxin, experimental production of atrophy of bone marrow with, (66) 174
  toxin reaction, ocular, (89) 540—ab
  treatment and prevention of infection in, (31) 952
  treatment of, (76) 948, *983, (24) 1550—ab, (77) 2001, (22) 2089
  tuberculosis, acute, simulating, (16) 1908—ab
  typical case, symptoms and treatment, (38) 1185
  vaccination, technic for, (128) 717—ab
  value of Conradi bile-blood culture medium for diagnosis of, (107) 1289
  with intermediary bacilli, (49) 1555
Typhus at Göttingen, (77) 1739—ab
  in India, (36, 37) 445
  in Indo China, (69) 532—ab
  toxin, how to obtain, with lecithin, and its immunizing action, (74) 715
Tyrol, Austrian, as health resort, (22) 444, (17) 536, (20) 628
Tyrosinase, action of, on tyrosin, (49) 445
Tyrosin, action of tyrosinase on, (49) 445

U

Ulcer, Duodenal: See Duodenal Ulcer
  anemic spot on duodenum which may be mistaken for, (126) 352
  Gastric: See Gastric Ulcer
  multiple rodent, (3) 1731
  of foot, perforating, negative results of stretching nerve for, (140) 267
  peptic, diagnosis of, (13) 1519—ab
  rodent, clinical and pathologic aspect of, (17) 167—ab
  round, of stomach and duodenum, experimental studies on, (77) 533—ab
  tropical, (129) 1820
  tropical, and yaws, therapy in, (31) 1907
  tropical, types of, in Nyasaland, (31) 1190
  varicose, and varicose veins of leg, treatment of, (131) 442
Ulceration, non specific, of bones of nose and face, (62) 1165—ab
  on genitals, pulverized metallic zinc in, (39) 873
  of fingers, infectious, (61) 446—ab
Ulcers, (122) 870
  corneal, injection of pneumococcus cultures and antiserum for, (101) 541
  from dilatation in intestine, (131) 1174
  perforating, of alimentary canal, (6) 914
Ulerythema sycosiforme, (191) 171
Ulna, congenital defect in, (48) 1031
Ultramicroscope, spirochæta pallida in, (84) 1649
Ultramicroscopy, importance of, for clinical study, (70) 875
Ultraviolet ray and high-frequency currents in neurasthenia, (11) 2185
Umbilicus, cholesteatoma of, (18) 797
Uncinariasis, (121) 534
Underweight and overweight, influence of, on vitality, (12) 1032—ab, (96) 1187—ab
United-States Marine Corps, medical service of, (107) 1187
  medical education in, need of uniform standard, *566
  Pharmacopeial and N. F. preparations, (107) 352
  Public Health and Marine Hospital Service, (53) 2188
Universities and colleges as factors in tuberculosis educational campaign, (92) 1901
University influences, (51) 1903
  of Michigan, teaching of physiologic pathology at, (86) 2004
  of Pennsylvania, course in obstetrics in, (6) 349
Uracil, action of diazobenzene sulfonic acid on, (43) 1731
Uranalysis in diagnosis of disease, (65) 1465
Urea carbonic acid for chemistry of drugs, importance of, (59) 797
  estimation of, in urine, (1) 2092—ab
  hydrochlorid and quinin, hypodermic use of, in diagnosis and treatment of malaria, (25) 1550 ab
Uremia, subtemporal decompression in chronic nephritis and neuroretinal lesion with, (31) 1902—ab
Ureter: See also Ureters
  and kidney surgery, (35) 2090—ab
  calculi of, (31) 167—ab
  calculi of, x-ray diagnosis of, (79) 77, (67) 169—ab
  calculus in, (149) 442, (105) 949
  calculus, x-ray diagnosis of fallacies in, (19) 1283
  catheterizations in, diagnosis and treatment, (57) 1642—ab
  displacement of, in pelvic tumors, (8) 1377
  fistula in, renal atrophy with, (67) 1739—ab
  ligated, experimental tuberculosis of kidney with, (114) 359—ab
  obstruction to, (120) 793—ab
  physiologic and pharmacologic studies of, (21) 1033
  sigmate constriction of, vaginoureterostomy after nephrectomy for pyonephrosis due to, (16) 1278
  surgery of, (192) 171, (96) 534
  upper segment of, kidney and pelvis, plastic operations on, for hydronephrosis, (66) 356—ab
Ureterostomy, bilateral, value of, in advanced cancer of bladder or *prostate, (16) 413—ab*
Uretero-vesical implantation; new method of anastomosis, *1321
Ureters, and cystoscopy catheterization of, in children, (75) 1912—ab
  and kidneys, operations on, (39) 167—ab
  behavior of, after abdominal operations for carcinoma of uterus, (112) 877—ab
  implantation of, into rectum for extroversion of bladder in woman, (9) 1820
  operations on kidneys when catheterization of, is impossible, (117) 800
  retention catheterization of in bladder affections and prostatic hypertrophy (182) 87—ab
  shape of, in fetus and infant, (63) 538
Urethra, air-distended, method of operating in, (17) 1467—ab
  calculi of, autochthonous, (13) 622
  dilation of, method of estimating progress of, (22) 172—ab
  diverticula of, congenital histology and genesis of, (71) 1286
  diverticula of, treatment of, (79) 1114
  female, prolapse of, (33) 167
  impassable stricture of, surgical treatment and plea for retrograde catheterization in, (69) 258—ab
  length of, (6) 1183—ab
  obstruction of, (37) 1112
  prostatic, rectum communicating with, in case of imperforate anus, (89) 1376
  prostatic, perineal section for obstruction of, (19) 866—ab
  rupture of, (123) 78
  rupture of, traumatic, treatment of, *1865
  stricture of, treatment, (11) 2191
  surgical treatment of impassable stricture of, prompt use of retrograde catheterization in, (19) 167—ab
  traumatic intussusception of, (103) 358
  tuberculin reaction in, (105) 1383—ab
Urethritis, anterior, treatment, (79) 1619
  chronic, zinc ionization in, (15) 951
Urethroscope, posterior, in disturbances due to disease of verumontanum, (34) 1372
Urethrotelescope, (103) 2011
Urethrotomy, internal, and incision of focus in urinary infiltration, (102) 1281
Uric-acid, elimination of, action of chinoline carbonates and their derivatives on, (67) 446
  endogenic and exogenic, determination of elimination of, in gout and other affections, (143) 1475
  endogenous, origin of, (20) 795—ab
  diet free from, mistakes which may prevent best results of, (9) 1371
  metabolism, (90) 1733
  metabolism during subcutaneous oxygen treatment of neuritis and neuralgia, (149) 1044—ab
  production of, (155) 1044—ab
Urinary discharge, efficiency of, (22) 172—ab
  tract, colon bacillus infections of, (32) 2190
  tract, infection, vaccine therapy in, (47) 2007
  tract, upper, calculi production in, after injury to spine, (70) 2097
  tract, tuberculosis of, prognosis in, (18) 2093
Urine, acidity of, (6) 260
  albumin in, quantitative estimation, *38 *2055
  alleged manifestations of, in diseases of pancreas, *837
  anasarca from retention of, (129) 1743—ab
  and blood, suprarenal products in, determination of, (93) 358
  and gastric juice, clinical examination of, by general practitioner, (5) 1734
  and serum of syphilitics, presence of complement binding substances in, *1142
  and stools, infant's, home made apparatus for collecting, for research on metabolism, (64) 1109
  and stools, toxicity of, and intestinal putrefaction in infants fed on foods rich in albumin, (152) 360—ab
  apparatus to collect, after operations on bladder, (75) 1114

Urine complement binding substances in, in syphilis, (11) 8—ab
  composition of, diagnostic importance of, in pneumonia, (101) 877—ab
  concrements, pathology of, ([illegible]) 954
  determination of ammonia in and course of elimination, (91) 111[illegible]
  determination of blood in, by spectroscopic chemical methods, (101) 776
  determination of neutral sulphur in (72) 875
  elimination of pepsin in ([illegible]) [illegible]
  estimation of urea in, (1) 2002—ab
  ethereal sulphates in, in gastro-intestinal autointoxication, (45) 1852—ab
  ethereal sulphates in, in pathologic conditions (61) 1[illegible]
  examination of (112) 449—ab
  findings, interpretation of, (42) 173
  hydrogen dioxid test for blood in, [illegible]—ab
  in diagnosis value of (122) 1111
  in chronic interstitial nephritis (66) 17[illegible]2
  incontinence of, from female hypospadias, treatment (120) [illegible]
  indican in and indol in stools lack of connection between proportion of, (7) 1114
  infection of, in infants ([illegible]) 87
  infections of, in obstetrics (1[illegible]) 1641—ab
  instrument for estimation of albumin in *1511
  microscopic examination of, ([illegible]) 1552
  normal, Diazo reaction of, (7[illegible]) [illegible]5
  of individual with general climate of obscure origin, salt elimination in, (58) 2002
  probable existence of nerves to excite glands for secretion of, (67) 1059
  quantitative determination of B oxybutyric acid in, (47) 17[illegible]1
  retention of, in typhoid in children (57) 712
  retention of, relieved by suprapubic catheter, (70) 1462, (114) 17[illegible]
  segregation of, in women with Luys's segregator, (124) 1290
  short circuiting of, value of in advanced cancer of bladder or prostate, (16) 143—ab
  substances in, that induce mydriasis, (87) 1059
  traumatic diffusion of, in kidney region, (33) 173—ab
  tubercle bacilli in, detection of, (112) 541—ab, (136) 1[illegible]4—ab
  unreliability of serum diagnosis of syphilis with, (47) 953
Urinology, rational, what constitutes it? (85) 1733
Urobilin in stools in health and disease, (39) 1191
Urobilinuria, in diagnosis of liver affections, (106) 653
Urogenital system, congenital unilateral absence of, and its relation to development of Wolffian and Muellerian ducts, (57) 708
Urologic department of German dispensary, (11) 1462
Urticaria, experimental, (26) 152[illegible]
Uruguay propaganda against cancer in, *203
Uterine tenaculum, *1695
Uterus, abscess of, hysterectomy, recovery, *127
  acetone in inoperable carcinoma of, (54) 917
  adenoma malignum of, with vaginal implantation 11 years after operation (77) 2189
  adenomyoma of, (54) 620, (53) 1646
  and bladder traumatic rupture of, during labor at full term *1406
  and Fallopian tubes tuberculous process in in connection with myoma, (96) 1826—ab
  and stomach *101[illegible]
  and tubes, coexistent with testicles in tunica vaginalis, (63) 81
  and vagina capacity of mucosa of for absorption (57) 219[illegible]—ab
  and vagina malformation of, pregnancy complicated by, (93) 1[illegible]3
  Bossi's dilator in artificial dilatation of, in labor, (31) 872
  cancer of (132) 442
  cancer of, diagnosis of and of late syphilis of uterus, (148) 268—ab
  cancer of early diagnosis of (118) 534
  cancer of, complicating pregnancy, ([illegible]) [illegible]
  cancer of late recurrence after operation for, (112) 1914—ab
Uterus carcinoma of, and fibroids, (2) 1161—ab
  carcinoma of, behavior of ureters after abdominal operations for, (112) 877—ab
  carcinoma of, early diagnosis of, (68) 1042
  carcinoma of, metastases of, in nervous system and organs of special sense, (1[illegible]) 2198—ab
  carcinoma of, primary, (80) 2001
  carcinoma of, operation for recurrence, (7[illegible]) 955
  Cervix of. See Cervix Uteri
  chorioepithelioma of, (45) 5[illegible]1
  chronic infectious inflammation of, (101) 970
  convoluted, (188) 87—ab, (8[illegible]) 799—ab
  convoluted, pessary treatment of, (92) 119[illegible]
  cure of insufficiency of bladder sphincter by drawing forward, (1[illegible]8) 1117
  dangers and uses of injections into, (51) 1[illegible]17—ab
  defective development of, ([illegible]1) 1536—ab
  dilatation of, intrapelvic saccular at term, (52) 171
  disinfection of, in puerperal infection (146) 17[illegible]
  displacements of, treatment, (9[illegible]) 71[illegible]—ab, *90[illegible], (6) 1[illegible]77—ab
  double, childbirth with, (187) 87—ab
  double multiple pregnancies in, ([illegible]) 2002
  endoscopy of, (30) 1[illegible]69—ab
  eversion of, (38) [illegible]1
  extirpation of, after Cesarean section or pubiotomy, indication for, (1[illegible]4) 21[illegible]8
  fibroid of general pathologic conditions with (48) 21[illegible]—ab
  fibroid of, symptomless and conservative surgery *672
  fibroids of, operative and non operative, (7) 1815—ab
  fibroids of, with perithelomatous changes late recurrence after operation (12) 2191
  fibromata of, pregnancy complicated by, in hemiplegia, (134) 442
  fibromyomata of, and anemia, *1395
  fixation of between external and internal os, (61) 81—ab
  gravid hernia of, after conservative Cesarean section, (144) 260
  gravid measurement of, (119) 177
  gravid, retrodisplacement of, diagnosis and treatment (19) 1180—ab
  gravid rudimentary pseudodouble (118) 877
  hemorrhage from, postclimacteric due to relative hypothyroidism *2157
  hemorrhage from, significance of, (97) 1377—ab, (56) 1903—ab
  hour glass contraction of, during labor, (47) 1279
  hysterectomy for cancer of (59) 2008
  in dry labor, ([illegible]1) 2000
  inguinal hernia of, (61) 2008—ab
  (29) 1901, (66) 1903 (26) 2001
  inversion of ([illegible]0) 20[illegible]1
  inversion of, operative treatment, (154) 1044—ab
  involution of, (38) 263—ab
  late syphilis of, (148) 268—ab
  Goth's technic for treatment of postpartum hemorrhage from atony of, (135) 1117
  lower segment of, (134) [illegible]59
  mucosa of, connective tissue fibers in, (54) 1646
  musculature of and myoma chemical composition of, (81) 20[illegible]8
  myoma of, (1) 78
  myoma of, dangers and treatment of, (2) 171, (19) 261—ab
  nongravid, can change size in response to indirect stimuli, (88) 956—ab
  nulliparous development of isthmus, (61) 538
  perforation of, instrumental, (20) 1730, (113) 1734—ab, (77) 1818, (29) 1901, (66) 1903 (26) 2001, (21) 2186—ab
  perforation of with injury of intestine, (122) 1742, (77) 1818
  perithelial sarcoma of, *1227
  plea for prompt evacuation of, in eclampsia, *2041
  prolapse of, (31) 1821
  prolapse of with decubitus (140) 86
  puerperal, bacteriology of, (38) 866—ab
  puerperal, gangrene of, (45) 1279
  puerperal inversion of, (89) 956
  puerperal retroflexion of, etiology of, (125) 267—ab
  retrodeviations of, and their treatment, (155) 171, (26) 261, (44) 20[illegible]—ab, (59) 2006—ab
Uterus, retrodisplacements of, principles on which success of surgical treatment depends, (22) 2001—ab
  retroflexion of, (87) 173[illegible]
  retroversion of, broad ligament plication for, (28) 2001
  retroversions of, after childbirth, prevention of, (71) 2189—ab
  round ligament of, myxosarcoma of, (11) 75
  round ligament of, tumors in, (75) 1287—ab
  rupture of, (110) 541, (77) 931, (7) 1406
  rupture of, abdominal hysterectomy for, (24) 20[illegible]1—ab
  rupture of, and treatment, (21) 952—ab, (116) 1742—ab
  rupture of, at site of old cicatrix, (4[illegible]) 75—ab, ([illegible]8) 1190—ab
  rupture of, traumatic, near term, (18) 1616—ab
  secondary rigidity external os, from acute puerperal inflammation of cervix, (37) [illegible]54—ab
  stab wounds of fetus in, (56) 701—ab
  steam cauterization of, (58) 954, (97) 1826—ab
  syphilis of, and uterine cancer, diagnosis of, (118) 268—ab
  tents and drains for, (96) 716—ab
  tonic contraction of, impacted shoulder, removal of uterus and contents by panhysterectomy (30) 872
  traumatic subluxation of, (76) 74
  utilization of, in plastic operations for genital prolapse (77) 10[illegible]
  vaginal fixation of, (58) 440—ab
  ventrofixation of and shortening of round ligaments (23) 2001—ab
  ventrosuspension of, during child bearing age (41) 707—ab
  ventrosuspension of, for retrodisplacements, pregnancy and labor following, (39) 707—ab
  wedge resection of body of, for chronic metritis (50) 6[illegible]0
Uterus abdominal wall fistula, delivery by, (185) 87—ab
Uvea pathology of, (118) 352
  syphiloma of (40) 1737
Uvula primary tuberculosis of, (62) 12[illegible]0—ab

V

Vaccination and eczema, (79) 1381
  of cattle against tuberculosis, (94) 86[illegible] (47) 1738—ab
  specific, in acute pyorrhea alveolaris, (15) 1038
  staphylococcus administration and dose of, (11) 1735
  streptococcus in puerperal infection, (10) 871
  test by subcutaneous injection, (160) 86
Vaccine, calf influence of temperature and other physical conditions on, (50) 2190
Vaccine therapy (25, 30) 80—ab (9) 706, (18) 1190, (16) 1467—ab, (75) 1552
  and opsonins, (187) 171, (74) 533, (71) 948
  and serotherapy, present status of, (33) 1902—ab
  in atrophic rhinitis (19) 790
  in chronic otitis media, (68) 1465—ab
  in diseases of eye, (38) 80
  in general practice, (4) 1466—ab
  in gonorrhea, (158) 78, (90) 1251
  in gonorrhea in female children, (75) 169—ab, *1298, *1301
  in infective diseases, (140) 534
  in lung affections control of by opsonic index, (32) 80
  in skin diseases, (34) 80
  in suppurations of nose and ear, (85) 441
  in tuberculosis, (23) 348, (74) 533
  in ulcerative endocarditis, (36) 80
  of chronic acne vulgaris, infections of urinary tract and tuberculosis (47) 2007
  value of, in surgical infections, (18) 2089—ab
Vaccines, stock, therapeutic use of, in bacterial infections, (3) 1466
Vaccinia generalized, and its pathology, (29) 537
  in animals immunity against, (29) 2190
Vagina, absorbing power of, especially for tuberculin, (125) 1742—ab
  and bladder during pregnancy, histologic peculiarities of, (113) 1117
  and enterocele, radical operation for inversion of, after vaginal hysterectomy, (124) 1742
Vagina and introitus, acquired atresia of, in adult, (15) 795
  and uterus, capacity of, mucosa of, for absorption, (57) 2193—ab
  and uterus, malformation of, pregnancy complicated by, (95) 161
  atresia of, causing convulsions, (69) 1[illegible]05
  circular laceration of, (137) 1117
  gravid, chemical study of secretion of, (56) 2192
  incipient chorioepithelioma with, metastasis in, (113) 359
  secretion of and lochia, experimental research on mixed infection with, (60) 2192
  speculum for, with intact hymen, (81) 447
  transplantation of epithelium of, to cure erosions in portio vaginalis, (140) 1117
  ulcerated fibroma in anterior wall of (54) 2007
Vaginal outlet, lacerations of, (94) 352—ab
Vaginalitis, orchitis, and epididymitis from sporotrichum beurmanni, (43) 1737
Vaginofixation, simple technic for delivery after, (156) 1117—ab
Vaginoureterostomy after nephrectomy for pyonephrosis due to sigmate constriction of ureter, (16) 1378
Vaporization, (97) 1826—ab
Varices, congenital, of right leg and external genitals, (3) 1519
  treatment of, (118) 1384—ab
Varicocele, operation for, (80) 169—ab
Variola, research on, (119) 2197—ab
Vascular and heart affections, from metabolic disturbances, balneotherapy of, (85) 176
  crises, (138) 626—ab
  lesions leading to presenile spontaneous gangrene, (40) 1902
  lesions and gliosis of right centrum, progressive hemiplegia of left side due to, (70) 1055—ab
  supply of heart valves, (132) 1043
  system and fibromyomata, (45) 1379
  system, cerebral, anomalous and pathologic conditions of, (73) 1186
Vase, Greek, representing polyclinic, 500 B C, (72) 82
Vegetables pseudotuberculous peritonitis from relics of, (143) 1118—ab
Vein communicating with cavernous sinus, occupying outer right sphenoidal wall, operative fatality and autopsy, (143) 950
  internal jugular, thrombosis of and of lateral sinus following suppurative mastoiditis, (68) 624
  internal jugular, thrombosis of, and of sigmoid sinus of otitic origin, operation for, (135) 950
  pin imbedded in, 4 years, *1500
  portal and inferior vena cava, anastomosis between, in collateral circulation in cirrhosis of liver, (118) 450
Veins, dorsal, in hand, as means of indentification, (93) 956
  jugular, protosystolic wave of pulse in, (40) 355
  of leg, varicose, and varicose ulcer, treatment of, (131) 442
  varicose, epigastric, following phlebitis, (30) 945—ab
  varicose ligature versus excision, in treatment of, (34) 1645
  varicose, surgical treatment of, (103) 1282, (34) 1645
Vena cava, inferior, and portal vein, anastomosis between, in collateral circulation in cirrhosis of liver, (118) 450
Venereal diseases, (33) 1736
  diseases and sex, instructions on, addressed to women of Texas in interest of home and public health, (82) 1281
  diseases, conquest of, (14) 348—ab
  diseases, prevention of, (101) 1819
  diseases, what public should know concerning, (166) 171
  patients examination of, (51) 257
  prophylaxis and functional genitourinary diseases (110) 1377
Venesection and cardiovascular affections, (101) 358—ab, *747
Venezuela and Trinidad, spread of plague in, (17) 766
Venom habu and its serum therapy, (70) 532
Venous accomodation after compression of superior longitudinal sinus by a glioma (4) 20[illegible]5

Venous souffle, Smith's, (130) 1743—ab
Ventricles, brain, drainage of, by transplanted blood vessels, (38) 2095—ab
  volume curve of, in experimental mitral stenosis and its relation to physical signs, (80) 2004
Ventrosuspension an unsafe operation on uterus during child-bearing age, (41) 707—ab
  and shortening of round ligaments, (23) 2001—ab
  for retrodisplacements, pregnancy and labor following, (39) 707—ab
  pregnancy, parturition and puerperium after, (3) 1553—ab
Veratrum viride, in eclampsia, (16) 1377—ab
Vermin as disease carriers, (19) 871-ab
Vermont sanatorium for tuberculosis, (71, 72) 624
Veronal group, soluble sedatives of, (94) 540
  in obstetrics, (117) 634
  overdosage of, *1229
  poisoning, acute, symptomatology, prognosis and therapy of, (87) 265—ab
  poisoning with glycosuria, (64) 1380
Vertebra, second cervical fracture and dislocation of, (8) 2185
  sixth cervical, fracture and dislocation of neck at, in man *of sixty (10) 1815*
  third dorsal transverse severing of spinal cord at, (103) 448—ab
Vertebræ, actinomycosis of, (52) 1903
  cervical, unilateral dislocation of, (58) 709—ab
  fractures of, (112) 2195
Vertigo and tinnitus, severe, destruction of labyrinth; sure, (31) 1378
  severe, and ataxia complicating chronic suppurative otitis media, *(183) 171*
Verumontanum, disturbances due to disease of, and its treatment with posterior urethroscope, (34) 1372
Vesiculæ seminales, chronic inflammation of, (145) 1037
Vesiculitis, tuberculous seminal, (67) 948—ab
Vetch legumin, hydrolysis of, (3) 1278
Vibration, mechanical, in constipation and pelvic conditions, (7) 706
Vibratory massage, (129) 85
Vicilin, hydrolysis of, from pea, (45) 1731
Vicious circles in digestive disorders, (5) 2189
Vienna, *epidemic of measles at*, (70) 1380
  eye, ear, nose and throat work in, (116) 1733
  gynecology at, (110, 111) 1913—ab
Vignin of cow-pea, hydrolysis of, (53) 1108—ab
Virus, Liverpool rat poison, epidemic ot enteritis caused by, (15) 2190
  of cattle plague, filtration experiments with, (71) 532
  of three-day fever, (63) 1823—ab
  trachoma, filtrability of, (135) 718
Viscera, female pelvic, intra-abdominal pressure *and supports of*, (39) 1646—ab
  female pelvic, supports-in-chief of, (36) 263—ab
  disease of, painful cutaneous zones in, (5) 944—ab
  innervated by sympathetic, sensitiveness to pain of, (85) 2195—ab
  pelvic displacements of, pathology and operative treatment, (37) 263—ab
  ptoses of, and movable kidney, corset for, *1568
  thoracic, diseases of, (97) 1281
Visceral reflexes, diagnosis and treatment based on, (34) 256
Vision, bifocal, lenses specially adapted for estimation of, (131) 1037
  color, and its anomalies, (31) 1283
  color, and its relation to *other* senses, (32) 1737—ab
  in eye diseases, (136) 442
  in relation to accident insurance and legal indemnity, (116) 869 (70) 1109
  normal, piece of steel weighing less *than milligram removed* from vitreous with resulting, (102) 1466
Visitors, apparatus for providing, with complete view and for securing photographs and moving pictures of operations (38) 1551—ab
Vital processes, energy and matter in, (56) 1647—ab
  statistics, accurate, necessity of, (60) 868
  statistes and public health, (151) 950
  statistics, importance and means of securing, (118) 1819
  statistics laws of Texas, imperfections and possible remedy, (91) 793
  statistics, registration of, *2212
  statistics, uniformity of, *2051
Vitality, influence of overweight and underweight on, (12) 1032—ab, (96) 1187—ab
Vitiligo, (20) 1610
Vitreous, loss of, in extraction of cataract, wire lid-elevator for prevention of, (180) 171
  piece of steel weighing less than milligram removed from, with resulting normal vision, (102) 1466
Vocal cords, injuries of, after removal of goiter, (93) 1649
Voice as affected by general conditions, (22) 1372—ab
  boy's, in man made normal by singing exercises, (95) 442
  production, essentials of, (125) 870, (6) 1031—ab
  sign, epileptic, (10) 1729—ab
Volume and specific gravity of organs, (27) 1816—ab
Volvulus of hour-glass stomach, (102) 2194
Vomiting, habitual, of infants, cardiospasm as cause of, (121) 1043—ab
  in childhood, diagnostic importance *of (66) 868*
  intractable, operation for, (38) 74—ab
  obstinate, (2) 2000—ab
  of pregnancy, (6) 1638
  of pregnancy, toxemic pernicious, with total nitrogen and ammonia estimations, (32) 1107
  of pregnancy, uncontrollable, (141) 86—ab, (51) 1380—ab
  periodic, (88) 82—ab
  prevention of, during first whiffs of ether, (118) 717—ab
  recurrent, unusual paroxysmal syndrome probably allied to, (36) 2002—ab
Vulva hypernephroma in, as only metastasis of malignant hypernephroma, (96) 1913
  melanotic cancers of, (131) 359
  primary epithelioma of, (115) 1383
Vulvovaginitis, gonococcus, inoculation treatment of, in children, (78) 169—ab, *1298, *1301
  in children, (96) 77

W

Walnut juice hair dye, dermatitis following use of, (71) 1035—ab
War correspondence of late James M. Holloway, extracts from, (86) 793, (125) 1377
  modern, Austro-Hungarian view of care of wounded on battlefield in, (52) 623
Warts, infective, (23) 1645—ab
Water and salt, pathology and metabolism of, (84) 1559—ab
  consumption of oxygen as test for, (111) 2011
  distilled, adjustment of paramecium to, and its bearing on problem of necessary inorganic salt content, (46) 1817—ab
  drinking, its use and abuse, (77) 258—ab
  drinking on steamships, (28) 2191-ab
  ingested, effect of, on blood, (64) 2096
  potable, composition of, (35) 2187-ab
  polluted, drinking of, a possible medium of dissemination of tubercle bacillus? *380
  supply of *Philippines*, (68) 532
  typhoid due to, (6) 2088—ab
  wash, significance of examinations of, for gastric cells in diagnosis of atrophic gastritis, (15) 348
Waters, determination of oxygen consumed in, (56) 1108
  mineral courses of, in heart disease, (94) 447
  mineral, radioactivity of, (131) 267, (9) 632
  mineral, therapeutic, action of, (63) 2188—ab
  normal, of Illinois, (78) 1466
  potable, sterilization of, by calcium hypochlorit, (14) 2235
Weaning, (132) 170
Weather, and malaria, (152) 1044
  anticyclonic, relation of, to prevalence of influenza and pneumonia on northern hemisphere, *660
Weber murder; Was Adolph Weber insane? (54) 168
Weight and age in fetus, *919
  bearing, influence of, on treatment of tuberculous hip-joint disease, (113) 1552
  bearing stumps, Hirsch technic for, (49) 713
  physiologic loss of, in thin dyspeptics, (48) 1285—ab
  sense of in affected side, value of, in diagnosis of lobar pneumonia, (24) 2186—ab
Wells, precautions before descending into, (38) 537—ab
Wertheim, a visit to his clinic in *Vienna*, (8) 535
West Virginia institutions, (99) 169
Westphal sign in healthy, (97) 1288—ab
Whey, preparation of, (41) 1737
White race, effects of tropical climate on, (101) 1733
  swelling, *neutral potassium oxalate* in, (11) 2099—ab
Whooping-cough, (63) 532, (73) 875, (112) 1042, (62) 1375, (73) 1739—ab
  aphasia during (17) 711—ab
  blood in, (36) 1463—ab
  fluoroform in, (136) 1734
  treatment of, (61) 532—ab
  treatment of, with abdominal binder, (83) 1376—ab
Widal *reaction*, *typical*, in streptococcus infection, (63) 1109
Wine, acetic aldehyd in, (48) 1737, (29) 2094
Winking cases, anomalous, (142) 1037
Wit, humor and insanity, (34) 1821
Wolffian and Muellerian ducts, congenital unilateral absence of urogenital system and development of, (57) 708
Woman and future of race, (138) *1553*
  extraversion of bladder in, implantation of ureters into rectum for, by modified Peter's operation, (9) 1820
  labor factor in social life, (139) 1553—ab
  pregnant, multiple fibroma of skin *in*, (99) 1826
Women, acute diffuse peritonitis in, vaginal or suprapubic drainage *in? (43) 1551—ab*
  and girls in Egypt, bilharziasis among, (17) 1906
  appendicitis in, (62) 538—ab
  child-bearing, reduction of morbidity and mortality of, if maternity hospitals were more in favor, (22) 623—ab
  cystitis in, medical treatment of, (51) 350
  diffuse peritonitis in, (81) 1110—ab, (28) 1640—ab
  diseased conditions of reproductive organs of, and what it means to health of, and increase in population, (73) 1280—ab
  excretion of creatinin by, in puerperium, (28) 263—ab
  external genitals of, development of, with special reference to hymen, (63) 1903—ab
  gonorrhea in, (88) 533—ab
  gonorrhea in, treatment of, (95) 265, (82, 119) 1819
  in business affecting health, (136) 1553—ab
  in business affecting health and *morals, (137) 1553—ab*
  in business affecting home life and marriage, (135) 1553—ab
  insane, pelvic diseases of, operations for (41) 623—ab
  mental disturbances in, (17) 1190
  non-pregnant, abnormal secretion from mammary glands in, *1839
  of Texas, address to, on venereal diseases and sex in interest of home and public health, (82) 1281
  pelvic disease of, ionic medication in, (19) 80
  pregnant, plea for more painstaking supervision of, (109) 1905—ab
  segregation of urine in, with Luy's segregator, (124) 1290
  sterility in (10) 865
  suburethral abscess in, (42) 797—ab
  syphilitic, antibodies in milk of, 1409—ab
Word blindness, congenital, (157) 86
Work cure, *1485
  progress and peace opportunity for, (43) 946
Worms, physiology of pulsating blood vessels in, (51) 1108
Wound, care of preliminary treatment and after-treatment of laparotomies, (132) 1820
  infection, puerperal, etiology of, (137) 2198
Wounded, Austro-Hungarian view of care of, on battlefield in modern war, (52) 623
Wounds, gunshot, causing rupture of bowel, without damage to peritoneum, (157) 171
  gunshot, of abdomen, (50) 440, (6) 1277, (111) 2194
  gunshot, of lung, treated by primary suture, (82) 1471—ab
  gunshot, of orbit and surrounding parts, (98) 442
  gunshot of skull, postmortem *findings in, (110) 2194*
  gunshot, of spinal cord, operative treatment of, (88) 1471—ab
  gunshot, old, of abdomen, plastic repair in, (144) 353
  gunshot, perforating, of gastrointestinal tract with recovery, (92) 1471
  gunshot, personal experience in, (77) 1552
  gunshot, treatment of, (57) 1270—ab
  gunshot, treatment of pseudarthrosis following, (60) 355
  gunshot, unusual, (95) 1466
  involving throax and abdomen, access to, (52) 1285—ab
  of eyeball, penetrating, better prognosis in, *312
  of bladder, gastric and duodenal ulcers secondary to, (105) 260—ab
  operative, infection of, by malignant disease, *748
  penetrating, of thoracic and abdominal cavities, (81) 625—ab
  principles and practice in treatment of, (114) 626
  stab, of fetus in uterus, (56) 791—ab
  stab, of thorax from criminal point of view, (156) 1475
Wrist, *supernumerary bones in*, (130) 85
Wry-Neck: See Torticollis

X

Xanthoma, (109) 1552
  case of, (94) 77, (125) 534
  planum, generalized, *in child*, (14) 1901
  symptomatic, structure and genesis of, (106) 1041
X-light tube, resistance of, not accurate indication of degree of vacuum, (8) 72
X-rays: See Roentgen Rays

Y

Yaws, (116) 260
  and syphilis, comparative morphol*ogy of spirochetes of*, (21) 941
  and tropical ulcer, treatment of, (34) 1907
  flies as carriers of contagion in, (25) 712—ab
  treponema pertenuis *of* (Castellani), and production of *disease in monkeys*, (123) 950—ab
Yeast extracts justifiable as substitutes for extract of meat? (9) 1038
Yellow-fever, (50) 2192
  and mosquito, *2199
  immunity, how it may be acquired, (164) 1189
  quarantine against, (166) 1189
  research, a pioneer in, (6) 72—ab
  spread of, (5) 166—ab
Yew, *poisoning and* abortion by, (109) 1741—ab
Yoghurt, (126) 1043—ab
Yolk-sac, *human*, research on, (39) 1907

Z

Zander methods of treatment, (34) 444, (15) 1372—ab
Zinc in plants, (49) 1737
  ionization in chronic urethritis, (15) 951
  pulverized metallic, in ulceration of genitals, (39) 873
Zonula *ciliaris and neighboring* structures, (123) 352
Zosteroid affection of petrosal ganglion, *herpes of membrani tympani* due to, (35) 1108
Zygomatic fossa, abscess in, (36) 946—ab

CURRENT MEDICAL LITERATURE

INDEX OF AUTHORS

In this Index are the names of the authors of articles which have appeared in THE JOURNAL of the American Medical Association and of articles which have been listed from week to week in the Department of Current Medical Literature as having appeared in other journals. Thus it practically includes the names of all who have published articles in the leading journals of the world during the past six months. To add to its completeness, the names have been added of those who read papers before societies as published in THE JOURNAL. The * preceding the page reference indicates that the article appeared in full in THE JOURNAL. The numbers in parentheses indicate the numbered paragraphs on the pages referred to. The numbers not in parentheses indicate pages.

A

Albo, R, (10) 789, (20) 790
Abbott, F G, (69) 76, (9) 622
Abbott, J F, (74) 350
Abbott, M E, (105) 869
Abernathy, N L, (125) 1044
Abraham, J H, (178) 950
Abrahams, R, (14) 1901
Abrams, A, (19) 459
Abrams, E T, (77) 1604
Abt, I A, 247, (60) 709, *1130
Ach, A, (121) 1473, (120) 2187
Achard, C, (59) 1380, (61) 1738
Achert, R E, (5) 78
Adair, F L, (50) 1551
Adair, J H, (46) 1551
Adami, J G, (80) 850, 1449, (71) 1732
Adams, H P, (13) 261
Adams, J, (29) 1820
Adams, J L, (65) 624
Adams, P A, (86) 1466
Adams, S S, 155
Adams, W B, (145) 1820
Adamson, H G, (3) 1734
Addison, C, (22) 1111
Addison, W H F, 158
Adler, H M, *752, (93) 869
Adler, I, (37) 866
Adler, L, (113) 877
Adler, L H, (40) 2189
Adler, M, (114) 1826
Adler, S, (51) 1192
Agramonte, A, (6) 72
Ahlfors, J, (123) 1652
Ahreiner, G, (77) 82
Ahrens, (109) 1826
Aiken, J M, (93) 1466
Aikman, W H, (107) 626
Aird, J W, (103) 534
Akin, H L, 67, (55) 2188
Alagna, G, (98) 1913
Alamartine, H, (47) 1822
Albarran, J, (65) 81
Albeck, V, (137) 359
Albee, F H, 431, (66) 624
Albert, H, 940, 1802
Albrecht, H, (122) 717, (111) 877
Alcock, N H, (14) 951
Alcorn, E, (85) 2189
Alderton, H A, (84) 1552
Aldrich, W J, (144) 442
Alessandri, R, (143) 1118
Alessandro, G, (140) 267
Alexander, A P, (107) 1110
Alexander, B, (12) 1183
Alexander, M J, (109) 626
Alexander, R J, (182) 171
Alexander, S, 160, (68) 714, (46) 1034, (92) 1557 (2) 1815
Alexander, W, (86) 176, (23) 2001
Alger, C J, (119) 1111
Alger, C L, (165) 950
Allard, E, (98) 448
Allbutt, T C, (24) 1645
Allchin, W H, (21) 354, (18) 444
Allee, W S, (75) 351
Allen, A R, 164, (49) 167, *216, (74) 624
Allen, C L, (36) 531, (140) 1252
Allen, D B, (13) 348
Allen, E S (176) 171, (122) 1111
Allen, F, *1584
Allen, H R, 1536
Allen, I O, (73) 76, (18) 1278
Allen, L B, (36) 256
Allen, R W, (38) 80, (15) 2031, (12) 2237
Allen, T G, (65) 1552, *1587
Allis, O H, (40) 74, (113) 779, 1557, (79) 2189
Allison, C C, *316
Allport, F, (135) 950, (83) 1036, (90) 1110
Almagia, M, 147, (119) 263, (137) 1734
Alsberg, C L, (49) 1731
Altschul, W, 1450
Alvarez, G, (64) 1039
v Alvensleben (91) 1195
Amato, A, (142) 1118
Ambard, L, (47) 713, (74) 2009
Amberg, F, *637, (67) 792, *1380
Amblard, L A, (58) 953
Ambrose, T, (37) 1555
Anders, J. M, (131) 210, (42) 946, 1255, 1511, (8) 2009, *2018, (71) 2180
Anderson, A B, 68
Anderson, A R S, (12) 1820
Anderson, E C, (78) 918
Anderson, H G, 88 (48) 2188
Anderson, J. F, (100) 869, 940, (79, 80) 1466, (6) 2088
Anderson, R. J, (20) 1111
Anderson, R S, (26) 1111
Anderson, W C, (106) 169
Anderson, W D, (4) 1466
Anderson, W E, 1723
Anderson, W W, 1546
Andersson, H C, *1574
Andre, C, 1254
Andrews, A H (173) 950, (123) 1734
Andrews, B F, (127) 531
Andrews, C L, (66) 1035
Andrews, C R, (132) 626, (36) 1108
Andrews, J W, (94) 1056
Angladi, J, (42) 629
Anspach, B M, (47, 48) 531
Anthony, E R, (187) 951
Anthony, H G, *1685
Anton, (110) 1042
Apelt, F, (105) 1826
Appiani, G, (151) 1475, (115) 1651
Applegate, J C, (91) 169
Appleman, L F, (82) 1376
Arany, S A, (26) 1554
Arbuckle, H E, (41) 1821
Archambault, L, (11) 703
Archinard, J J, (52) 1374
Arkawin, J S, (88) 82, (60) 874
Arloing, F, 1362
Arloing, S, 1258, 1449
Armaingaud, (40) 712
Arms, B L, 941
Armstrong, G E, (40) 791
Armstrong, W G, (35) 1112
Arndt, G, (69) 875
Arneth, J, (149) 1475
Arnett, C T, (77) 2004
Arnheim, G, (73) 875
Arnold, E H, 337, 343, (128) 1734
Arnold, H C, (2) 864
Arnold, H D, *890
Arnold, H S, (126, 127) 1731
Arnold, J, (127) 634, (179) 1043, (92) 2008
Arnold, M B, (8) 1906
Aron, F, (86) 265
Aronstam, N E, *1419
Arrington, O N, (105) 1110
Asch, R (67) 1738
Aschaffenburg, G, (93) 1559, (103) 1560
Aschner, B, (113) 2011
Aschoff, K, (94) 692
Ashburn, P M, (123) 950, (108) 1187, (103) 1733
Ashford, B K, (16) 166
Ashhurst, A P C (39) 2089
Ashley, J, (138) 1820
Ashmead, A S, (20) 439
Ashkanazy, M, (53) 1192
Astley, G M, *2059
Atkinson, A D, 2080
Atkinson, D T, (103) 1904
Aubertin, C, (43) 255, (46) 713
Aubourg, P, (44) 1822
Auche, M B, (32) 173
Audebert, (30) 712
Auerbach, S, (90) 1649
Auffret, M, (15) 795
Aufmwasser, H, (22) 348, (65) 1280
Aufrecht (90) 1559
Aufrecht, T, (60) 2096
Auglair, J, (43) 537
Auset, E, (68) 82
Austin, A E, (49) 1903
Austin, M A, (22) 1107, (20) 1816, 1805
Avery, J S, (8) 1282
Avramescu 2156
Axenfeld, D, (29) 1283
Axenfeld, T, (81) 176

B

Bab, H, (108) 1041
Babcock, R H, (75) 1076 1806
Babcock, W W, (113) 1037, 1513
Babler, E A, (12) 791, *1310
Babonneix, L, (70, 31), 173
Bacaloglu, (48) 174
Baccarani, 59
Baccus, V J, (82) 533
Bach, L, (122) 352
Bachem, C, (84) 265
Bachmann, E, (66) 2096
Bachrach, R, (87) 715
Backman, A, (110) 800
Bacon, L C, (109) 78
Badcock, C L, (4) 2191
Baddaert, R J, (93) 358
Baer, G, (61) 874, (117) 1560
Baer, J (82) 265, (92) 1288
v Baeyer, H, (86) 1351
Baginsky, A, (82) 82, (70) 631
Bahrdt, H, (100) 83
Bailey, L H, 1616
Bailey, P, (179) 170, (47) 867
Bailey, W, (97) 1733
Bainbridge, W S, (137) 626, (1) 1371
Baker, H, (89) 1186
Baker, M R, (58) 1465
Baker, S, (100) 793
Baker, S C, (54) 1465
Bakshi, R B, (42) 1737
Baldi, A, (122) 878
Baldwin, E R, (10) 166, 1361, 1447
Baldwin, H, (137) 170
Baldwin, J F, (114) 1377
Baldwin W H (98) 2092
Baldy, J M, (31) 623, (36) 707
Ball, C H, (191) 171
Ball, C R, (45) 1551
Ball, V, (47) 1822
Ballagi, J, (17) 166
Ballance, C A, (26) 1645, (27) 1820
Ballantyne, A J (36) 1907
Ballard, C N, (30) 2001
Ballenger, E G, (12) 348, (42) 1108, 2081, (66) 2091
Ballenger, W L, *1062
Ballin, M, (172) 171
Ballivet, (33) 173
Ballner, F, (85) 2009
Ballowe, H L, (92) 1819
Bambach, G (20) 865
Bamberg (55) 797
Baner, W L, *919
Bannerman, W B, (25) 628
Bannister, N, (147) 1037
Bar, E, (55) 1892
Barach, J H, (36) 1462
Baradulin G I, (87) 1194
Barany, R, (33) 537
Baratoux, J, (131) 78
Barber, M A, 1446, (51) 2002
Barber, W L, 338
Barberio, M, (99) 956
Barbet, F, (40) 953
Barbour, H F, (134) 359
Barbour, L P, (144) 870
Barbour, P H, 1454, (91) 2189
Barclay, A E, (17) 1283
Barcroft, J, (99) 83
Bard, L (51) 174 (40) 355
Bardachzi, F, (72) 1380
Bardenheuer, (92) 1559
Bardwell, F A, (112) 1111
Bargellini, E, (130) 178
Barie, E, (54) 1286
Barker, A F, (10) 1078 (28) 1736
Barker, A E J, (3) 1189
Barker, B I, (26 27), 1184
Barker, E O, 1616
Barker, J E, (8) 1111
Barker, L F, *368
Barker, M R, (8) 1106, (5) 2100
Barkley, A H, (98) 352, (42) 707, 1353
Barlach (114) 2196
Barlatier, (35) 537, (59) 1039, (50) 1380
Barlocco, A, (138) 567
Barlow, M, (62) 76
Barnes A E, (18) 1038
Barnes, E M, 1892
Barnes, F, (40) 2006
Barnes, H A, (10) 1277
Barnes, H E W, (71) 1185
Barnes, H L, (2) 1105
Barnes, J H, (98) 1466
Barnes, L M, 932
Barnes, N P, 1895
Barnes, R H, 1728
Barnett, C E, (19) 866
Barnett, S T, 2081
Barney, C N, (16) 438
Barnhill, J F, (55) 350 (20) 1184, (103) 1819, (135) 1906, (84) 2092
Barnhill, J U, (97) 626
Barr, G L, (38) 1185
Barr, J S, (20) 1467
Barr, M W, 1725
Barrett, C W, (41) 75, 1535
Barrett, F, *917, (111) 1111
Barrett, W M (66) 1818
Barrington, F, (32) 872
Barrow, D, (112) 260 1546
Barrow, S C, (51) 1374
Barrows, H W, (119) 1466
Barry, C C, (40) 445
Barry, W T, (57) 168
Barshinger, M L, (80) 625
Bartel, J, (166) 87, (107) 177, 1252, 1447
Barth, A, (75) 1040
Barth, E, (92) 1040
Barthel, C, (116) 541
Bartino, A, 1781
Bartlett, F H, (40) 167
Bartlett, W, (37) 74, (36) 167, (145) 1188, (32) 2089
Bartlett, W B, (45) 2188
Bartley, L H, (146) 1906
Barton, G C, (59) 168
Bartow, E, (78) 1466
Basch, S, (13) 1462, (9) 1549
Baschieri Salvadori, G, (139) 718
Basham, D W, (38) 1033, 1633
Bashford, E F (3) 2189
Bass, C C, (53) 1374
Bassenge, R, (71) 715
Bassetta, A, (55) 173
Bassett Smith, P W, (3) 1644
Bassler, A, (15) 348, (11) 438, (143) 676, (46) 1371
Basso, G L, 515
Bassoe, P, (78) 1036, (30) 1816
Batchelor, J M, *1944
Bate, R A, (25) 693
Bath, T W, (82) 1186
Batroff, W C, (104) 1733
Batson, J D, (129) 793
Batson, M L, (58) 1732
Battey, W W, (109) 1466
Battle, W H, (14) 172, (2) 535, (28) 952
Baudet, (57) 1469
Bauer, (123) 2197
Bauer, A, (110) 1473
Bauer, J, (45) 1191, (118) 1290
Bauer, L, (88) 265
Bauer, R, (59) 1193
Baugh, L D H (22) 1377
Baum, W L, (64) 709
Bauman, G L, (106) 793
Baumann, B, (101) 1251
Baumann, F, (66) 1552
Baumann, W, (108) 84
v Baumgarten (97) 716
Baumm, P, (86) 1825
Baur, E, (90) 876 (94) 2010
Bayer, C, (55) 713, (120) 717
Beach, W M, (76) 2189
Beal, H W, (35) 1372
Beale, E C, (11) 261
Beall, K H, (187) 171, (165) 1189
Beard, E R, (54) 350
Beard, F H, (94) 352
Beard, F M, (63) 1185
Beard, S L, 1383 (89) 2189
Beardsley, E J G (26) 1550
Beasley, H C, (96) 352
Beatson, G T, (49) 1379
Beattie Smith W, (37) 873
Beaumont, W M, (11) 627, (116) 1466
Bechhold, H, (81) 1194

Becht, F. C., (68) 350, (37) 1278
Beck, C., *885, (27) 2186
Beck, E., (53) 713
Beck, E. G., (60) 76, (68) 709, 1540
Beck, H. G., (41) 2002
Beck, J. C., (85) 441, *451, (131) 950, (132) 1906
Becker, (94) 265
Becker, G., (116) 1117
Becker, P., (79) 82
Becker, W. H., (93) 1382
Beckett, T. G., (38) 873
Beckley, C. C., (3) 864
Beddard, A. P., (17) 1111
Beebe, S. P., 251, (91) 869
Beede, S. C., 68
Beedle, G. A., (60) 1642
Beekman, P., (108) 626
Beers, N. T., (16) 1106
Beevor, C. E., *89
Beez, (65) 1193
Beggs, W. N., (113) 1614
Behan, R. J., (123) 442
Behrend, E. B., (46) 947
Beilby, G. E., (25) 1640, (86) 1643
Bel, G. S., (81) 259
Beldau, G., (102) 2011
Belfield, W. T., (26) 1462, (114) 1733
Bell, A. J., 2090
Bell, E., (60) 791
Bell, E. L., 245
Bell, J., (128) 78
Bell, J. M., (24) 707
Bell, J. W., (89) 625, (159) 970, (32) 1190
Bell, M. H., (91) 2004
Bell, W. B., (26) 261, (14) 1377, (43) 1468
Bellamy, R. H., *397
Bellantoni, R., (7) 2233
Belloni, G., (103) 799
Belt, H. S., (26) 1901
Bence, J., (124) 359
Benda, C., (110) 2194
Bendig, P., (72) 539, (114) 1289
Bendixen, P. A., *1599
Benedict, A. L., (13) 166, (22) 167, 429, (95) 534, (81) 1376, (139) 1553
Benedict, S. R., (60) 350
Benjamin, A. E., (92) 625
Benker, O. H., (62) 1642
Bennett, S. R. (19) 1088
Bennett, W., (9) 443, (8) 2190
Bentall, W. C., (12) 2005
Bentley, W., (6) 621
Benton, F. L., (107) 1187
Béraneck, E., 1359, (63) 1910
Berg, A. A., (33) 1372
Berg, G., (69) 1193
Berg, J., (155, 157), 860
Bergell, P., (95) 2011
Berger, H., (83) 176, (84) 1912
Berger, P., (44) 263
Bergeron, P. N., (17) 2088
Bergey, D. H., *836, (112, 111) 869, (113) 1282
Berghausen, O., (75) 76, (68) 1732, 1806
v. Bergmann (55) 797, (61) 1380
Berkeley, C., (6) 1551
Berkeley, W. N., (3) 1900
Berkley, H. J., (43) 1464
Berlin, (108) 1560
Berliner, M., (64) 1557
Bernaldez, F. de P., 939
Bernard, L., (45) 713
Bernart, W. F., (15) 166
Berner, O., (130) 1474, (140) 1743
Bernhardt, M., (76) 539, (51) 953
Bernheim, (65) 2008
Bernheim, S., (41) 712
Bero, E. J., (7) 1276
Berry, J. M., (53) 257
Berry, V., (133) 1820
Berry, W. T., (151) 78
Bertelli, G., (144) 268, (107) 800
Berthoumeau, M., (43) 263
Bertino, A., 1871
Bertrand, G., (49) 445
Besredka, (33) 712
Best, (102) 876
Bettmann, (87) 1381
Bettmann, H. W., (9) 2088
Betz, O., (96) 1110
Beuttner, O., (87, 88) 956
Bevan, A. D., (110) 353, *566, 1541, (21) 1550, 1634, (106) 1905
Beyea, H. D., (93) 169
Beyer, E., (78) 1381
Bezançon, F., (17) 623
Biagi, M., (132) 717
Bibb, L. B., (91) 793
Bibergeil, E., (67) 1286
Bichelonne, H., (40) 873
Bicknell, G. H., (73) 258
Bidwell, L. A., (15) 628
Bier, A., (81) 1040, (107) 2194
Bierhoff, F., (11) 1462
Bierring, W. L., *393, (146) 1037, (16) 2186
Biesalski, (93) 1040
Biever, A., (88) 1819
Bigelow, C. S., (48) 1551, (110) 1905
Biggs, H. M., 1262, 1268
Billet, A., (60) 1469
Binetti, G., (132) 267
Bing, R., (112) 634
Bingel, A., (120) 1117
Binney, E. H., (38) 1112
Binnie, J. F., (125) 352, (29) 700
Bircher, E., (80) 82, (88) 447
Birch-Hirschfeld, A., (67) 1193
Birkett, H. S., (11) 530
Birnbaum, R., (8) 2098
Biron, S. E., (165) 87
Birt, A., (57) 2090
Bishop, E., (51) 257
Bishop, E. S., (31) 1107, (30) 1555, (24) 2190
Bishop, L. F., (7) 166, (139) 626, (28) 1550, *1594
Bissel, J. B., (52) 1279
Bisshopp, F. R. B., (7) 78
Bittorf, A., (84) 1559, (124) 2197
Bjorkenheim, E. A., (55) 2007
Blaauw, E. E., (126) 1905
Black, J. F., (103) 793
Black, M., *212, (112) 1187
Black, N. M., (177) 171
Blackader, A. D., (62) 1732
Blackburn, J. H., 336
Blackham, R. J., 573, (14) 871
Blackmore, T. A., (61) 1642
Blackmun, E. L., (41) 531
Blackwell, E. M., (51) 623
Blackwood, N. J., (32) 74, (49) 75
Blain, A., 128
Blair, V. P., (50) 1461
Blair, W., (79) 948
Blake, C. J., 1256
Blake, J. A., (31) 790, (39) 791
Blake, J. B., (138) 353
Blake, J. E., (6) 1729
Blanchard, W., 342, 344, (112) 1552
Bland-Sutton, J., (8) 353, (11) 443, (17) 444
Blaschko, A., (83) 876
Blasdel, T. D., (71) 1465
Blassberg, M., (139) 1043
Blecher, (84) 632
Blegvad, N. R., (91) 2092
Bleibtreu, L., (71) 1470, (113) 1560
Blesh, A. L., 1727
Bletchly, G. P., (10) 2005
Bleyer, A. S., (40) 440
Bliem, M. J., (169) 1189
Bliss, M. A., *37
Bliss, R. W., (117) 1111
Blodgett, W. E., (170) 950
Bloomfield, M. D., (5) 944
Blue, R., (70) 1185
Blum, L., (92) 1288
Blum, V., (173) 87, (110) 177, (111) 717
Blümel, K., (85) 539, (93) 876
Blumenthal, F., (91) 83, (73) 539, (71) 1911
Blumer, G., (31) 945
Blumreich, L., (45) 953
Blunschy, F., (79) 1824
Bluth, G., (101) 1289
Blythe, V., (93) 352
Board, M., 1453, (88) 2189
Boas, H., (87) 1115
Boas, I., (78) 1649
Bockenheimer, P., (52) 355
Bodine, J. A., (3) 1276
Bodkin, M. L., (16) 1032
Boeck, C., (133) 1743
Boehm, J. L., 2089
Boeckh, E. V., 1891
Boeckmann, E., (131) 793
Boehm, R., (79) 1194
Boese, J., (84) 1040
Bogart, A. H., (65) 1642
Bogart, T. N., (136) 1820
Boggess, W. F., 1544, (97) 2189
Boggs, R. H., (84) 948
Boggs, T. R., (28) 945
Bogoljuboff, W., (115) 359
Bogue, E. A., *7
Böhme, A., (98) 716
Boice, C. A., (113) 442
Boinet, E., (41) 263, (39) 537
Boise, E., 69
Boissard, A., (17) 2235
Bokenham, T. J., (12) 1283
Bokofzer, S., (114) 1117
Boland, F. K., (41) 1108, (32) 1550, 1533
Boldt, H. J., (37) 623, *903
Bolduan, C. F., 1894
Bolt, R. A., (108) 949
Bolten, G. C., (71) 1558
v. Bombard, H., (104) 266
Bonamy, E., (66) 81
Bonamy, R., (66) 81
Bonanno, G., (100) 799
Bonazzola, A. F., (130) 450
Boncour, G. P., 2060
Bonifield, C. L., 1456
Bonnaire, E., (48) 81, (51) 1380
Bonnar, J. D., (5) 1371
Bonney, S. G., (112) 1641
Bonney, V., (32) 1038, (133) 1474, (6) 1554
Boogher, J. L., (109) 1110
Boot, G. W., *1961
Booth, J. A., 164, (89) 2001
Borchardt, L., (116) 1326
Borchardt, M., (139) 359, (50) 1192
Bordet, J., (58) 1469
Bordley, J., (48) 1461, (31) 1902
Boreing, V. P., (50) 2090
Borelli, E., (117) 1381
Borgbjärg, A., (70) 1114, (127) 1828
Borghetti, E., (118) 352, (127) 1188
Bornhaupt, L., (61) 798
Bornstein, K., (69) 1738
Borrel, 514, (31) 712, (40) 797
Borri, A., (50) 264
Borszeky, K., (45) 797
Bose, K. C., (15) 1820
Bosher, R. S., (90) 1643
Boshouwers, H., (60) 2007
Bossi, L. M., (188) 87, (92) 1195, (7) 1377
Boston, L. N., 71
Boston, S. C., (54) 1817
Bosu, B. B., (41) 445
Bouchut, L., (52) 538
Bourcart, (47) 1113
Bousfield, E. C., (28) 1615
Bovaird, D., Jr., 1368
Bovée, J. W., (41) 167, 1625
Boveri, P., (53) 873
Bowden, D. T., 700, (43) 2090
Bowditch, H. D., 1366
Bowditch, V., (14) 911
Bowen, W. H., (36) 1467
Bowers, C. E., (64) 624
Bowers, W. G., 1420
Bowlby, A. A., (8) 261, (16) 795, (24) 872
Boycott, A. E., (35) 262, (25) 2190
Boyd, E. T., 1177
Boyd, F., 1453, (95) 1733
Boyd, F. D., (84) 1281
Boyle, G. A., (96) 1466
Bracken, H. M., (18) 2001, *2151
Bradburne, A. A., (131) 1188, (32) 1907
Bradford, E. H., (103, 104) 77, 527, (120) 1552, 1540
Bradford, J. R., (2) 1189
Bradley, H. C., (75) 868
Bradley, W. N., (46) 867
Bradshaw, T. R., (41) 355, (9) 2190
Brady, E. T., 1808
Brady, J. M., (59) 257
Brady, W., (60) 1903
Brahmachari, U. N., (15) 1467
Braislin, W. C., (89) 1552
v. Bramann, (110) 1042
Bramwell, B., (18) 536, (5) 710
Branca, A., (35) 173, (39) 1907
Brandenberg, (87) 358
Brandenburg, W., (49) 1192
Branham, J. H., (32) 1033
Brannan, J. W., 1628
Brauer, L., (42) 2095
Braun, H., (116) 450, (56) 713
Braun, L., (92) 447
Braun, W., (69) 356, (88) 1471
Brauner, M., (133) 634
Brav, A., 130, (99) 1037, 1698
Brawley, F., (152) 171, (68) 1280, (103) 1552
Brayton, A. W., (116) 626
Breaky, J. F., *2034
Breeding, W. J., (122) 1188
Brehaut, A. H., (7) 794
Breinl, A., (80) 539, (39, 42) 1038
Breitenbach, O. C., 1499
Bremerman, L. W., (95) 77, (78) 1186, (114) 1111, (53) 1552
Brennemann, J., *101
Brenner, A., (63) 1286
Brenner, M., (113) 359
Breton, M., (47) 1285
Brewer, G. E., (39) 167, (142) 353, *543
Brezina, E., (110, 111) 2011
Bridge, N., 429, (137) 1553, 1895
Bridger, J. D., (84) 1733
Brieger, L., (89) 83, (63) 714, (56) 797
Brieger, O., (84) 715
Briggs, E. C., *386
Briggs, W. A., (34) 439
Brindeau, A., (64) 81
Brinkman, M. W., 1890
Brinsmade, W. B., (39) 1730
Briscoe, J. C., (32) 80
Bristow, A. T., (160) 171, (111) 260, (8) 789
Britenstool, H., (9) 706
Broadbent, J. F. H., (25, 32) 1645
Broca, A., (53) 445, (40) 953, (50) 1113, (54) 1380
Brodhead, G. L., (43) 75
Brodnax, J. W., (19) 2186
Brodnitz, S., (85) 1649
Brodzki, J., (104) 84
Bromberg, P., (59) 2003
Brook, W. F., (9) 2005
Brooke, R., Jr., (16) 438
Brooks, J. G., (47) 1185
Brose, L. D., *492, (23) 623
Brossard, (63) 81
Brough, D. D., (82) 1466
Broun, L., 70, (41) 623
Brower, D. R., (114) 919
Brown, A. G., (28) 1278, *1416, (19) 1730
Brown, C. P., (54) 2188
Brown, E. J., *496
Brown, E. M., (21) 1107
Brown, G. S., (37) 167
Brown, G. V. A., (79) 351, 786, (66) 1465
Brown, J. Y., (66) 709, (93) 1186, *1406
Brown, L., (6) 255, (8) 530, 1269, 1813
Brown, L. P., (69) 2091
Brown, O. H., (82) 948
Brown, R., *1865
Brown, S., (81) 1036
Brown, T., (149) 1188
Brown, W. B., (62) 532, 1973, 2061
Brown, W. L., (8) 171, (18) 712
Brownell, A. H., (104) 1187
Browning, C. C., 248
Browning, C. H., (113) 869
Browning, G. S., (150) 1037
Browning-Smith, S., (43) 1112
Brownlee, J., (46) 1379
Bruce, W. I., (23) 1283
Bruck, A. W., (122) 2197
Brückner, M., (93) 1472
Brucks, F., (82) 1114
Brueckner, A., (122) 1282
Bruegel, C., (91) 2098
Brugsch, T., 41
Brumby, W. B., (92) 793
Brumpt, E., (50) 2192
Bruner, W. E., (110) 1037
Brüning, F., (78) 1040
Brunk, A., (79) 175
Brunon, R., (45) 1822
Bruns, E. H., (82) 169
Bruns, L., (69) 1558
Brunton, L., (24) 1038, (2) 1734
Brunwin, A. D., (55) 1469
Bruschettini, A., (128) 717
Brush, C. E., (64) 2003
Brush, E. C., (109) 1377
Bryan, J. H., (107) 1552
Bryan, R. C., (27) 707
Bryan, W. A., (41) 1641, (127) 1644, (58) 2003
Bryant, D. C., 67, (88) 1733
Bryant, J. D., 1881
Bryant, O. R., (61) 168
Bryant, W. C., (60) 2003, 2081
Bryant, W. S., *364, (95) 793, (50) 1034, (6) 1549, (12) 1278, (85) 2092
Bryce, A., (6) 1906
Bucalossi, A., (105) 800
Bucarelli, F., (155) 1475
Buchanan, A., (45) 1112, (8) 1820
Buchanan, G. B., (2) 2092
Buchanan, J. B., (33) 74
Buchanan, J. H., (99) 1187
Buchanan, J. J. (119) 1282
Buchanan, L., (136) 442
Buchholz, (107) 1289
Buchner, E., (161) 1476
Bucholz, C. H., (15) 1372
Buchtel, F. C., (101) 1110
Buck, A. H., (8) 2088
Buck, H. C., (106) 1110
Bucke, E. P., (109) 1644
Buckler, H. W., (139) 260
Bucklin, C. A., (138) 1906
Buckner, R. G., (108) 1466
Budde, J., (115) 1111
Buecheler, A., (93) 447
Buerger, L., *1233, (40) 1902, (105) 2099
Bugbee, M. L., 345
Buhlig, W. H., (43) 707, 1086, (32) 1107, 1149, 2055
Buist, R. C., (12) 1377
Bulkley, L. D., (93) 259, *279, 429, (136) 1553
Bull, C. S., (111) 1905
Bull, P., (125) 878
Bullard, N. C., (99) 2005
Bullard, W. N., (2) 165, (4) 864
Bullitt, J. B., (123) 793
Büllmann, G. A., (81) 1649
Bulloch, J. G., (31) 1462
Bunch, J. L., (22) 1820
Bungart, J., (110) 1560
Bunts, F. E., (137) 353, (81) 441
Bunzl, V., (55) 264
Burch, L. E., (97) 1377
Burckhardt, L., (62) 1552
Burdick, G. G., (79) 441
Burford, C. E., (57) 1642
Bürgi, E., (75) 2009
Burk, W., (105) 1826
Burke, J., (115) 352, (104) 949, (96) 1643, (117) 1733
Burke, M. O., (25) 531
Burke, T. A., (90) 869
Burker, K., (103) 1650
Burkhardt, L., (77) 264
Burkitt, E. H., (36) 1555
Burman, R., (10) 530
Burnand, R., 777
Burnet, J., (35) 2006
Burnett, E. D., (82) 351
Burnier, (38) 1190
Burns, W. B., *1671
Burr, C. W., (72) 533, (103) 531
Burr, W. R., (37) 1185
Burrage, T. J., (9) 622

Burrus, J T, (128) 1820
Burton Opitz R 2173
Burvill Holmes E (10) 790, (109) 1252, (97) 1819
Busch, F C *640
Busch, M, (67) 1233
Bush, C F, (64) 2002
Bush, J P, (47) 1318
Bushnell, F G (140) 784, (10) 1111, (25) 1377, (51) 2004
Busquet, H, (15) 1660
Bussman, P. I, (9) 944
Butcher, W. D, (21) 1283
Butler, C S, (93) 2187
Butler, F. W. P, (127) 1111
Butler, T H, (11) 871 (93) 946
Butler, W J, 144, (78) 169, *824, *1301, 1727 (2) 1729 1988
Butterfield, F H, (70) 169
Butterfield, F T, (59) 1818
Buttersack (134) 624
Butterworth W W, (71) 441
Busse, O, (136) 86
Byford, H T, *779
Bynum, J C, 690

C

Cabot, A T 2187
Cabot, F, (118) 949
Cabot, H, 161
Cabot, R C, (155) 78
Cade, A, 1555
Cadwalader, W B (4) 1187 1775
Cagnola, A, (126) 470
Caillé, A, 155, 246 (47) 867, 956
Calderon, F, (54) 1185
Caldwell, D, (69) 948
Caldwell, R, (15) 1189
Calhoun, F P, (52) 791
Calkins G N, 252
Call, E L (40) 1279
Call, M, (99) 1643
Callan, L W (50) 857
Calleja, C, (10) 1639
Calmette, A, 1058 1372 [illegible] 1118, (57) 1647, (8) 1729, (47) 1797
Calmette L, 1358
Calot, 1625
Calvert, W J, (53) 168
Calwell, W, (23) 1821
Calzada, L, 203—ab
Camus, L, (59) 446 (47) 873
Cameron, C A, (11) 1189
Cameron, J C (43) 1279
Cameron, S J M, (45) 1379
Cameron, W H, 1356
Caminiti R, (124) 1914
Camp, C D, 163 (13) 255, *661, 784
Campanella, C (115) 1475
Campani A, (117) 1651
Campbell, F, (114) 793
Campbell G F, (24) 80
Campbell, O B, (97) 1904
Campbell, R N, (37) 1737
Campbell, R P, (130) 78, (158) 171, (104) 1644
Campbell, T H, (4) 1466 (90) 1645
Campbell, W A, (92) 430, (17) 622
Campbell W M, 941
Canfield, R B (141) 950 *1136
Cannac (47) 1285
Cannaday, J E, (23) 1107, *1425, 1459
Cannon, G E, 250 (72) 1552
Cannon T H, (113) 1111
Cannon, W B, *675, (73) 2004
Cannon, W C, 524
Canon (85) 1471 (88) 2194
Cantieri, A, (134) 267
Cantlie J, (22) 625
Cantrell C F, (97) 259
Cantrell, G M D 249, (151) 950
Cantrell W (188) 171
Capel E (58) 355
Capelle (63) 356, (111) 1259, (79) 2094
Caponette, G, (110) 2000
Capps, C M, (71) 2091
Capps J A, (28) 1107 (26) 1516
Caraven, J, (55 61) 81
Caravin, E, (17) 458 (14) 1258
Cardamatis J P (28) 537
Cardenal L (182) 87
Carey, H W, (102) 1187
Carhart, W M, (61) 441, (44) 623
Carles F (49) 1107
Carling, T, (10) 944
Carlson A J, (59, 67, 68) 350, (51) 1108
Carmalt, W H, (132) 352
Carman, P D (79) 77, (67) 169, (64) 1905 (82) 1904
Carmichael, I S, (5) 1111
Carmichael, F A, (35) 77
Carmody, T F (151) 1057, (65) 2188
Carnot, P, (50) 2007
Carns D H, (131) 626
Caro L, (70) 1558
Carothers R, (117) 170
Carozzi, L (23) 1038
Carpenter, F W, (120) 870
Carpenter, G, (24) 530, (87) 1467,
Carpenter, H C, *2216
Carpenter, J T, (113) 1905
Carr, J W, (95) 444
Carrel A, *1642
Carroll, J. J, (46) 1465
Carroll, G F, (57) 1732
Carroll, J B, (95) 169
Carsten, J. H, 786
Carter, C A, (64) 868
Carter, G, (11) 1644
Carter, J H, (100) 1188
Carter, N M, 1571
Carter, P. A, (56) 1732
Carter, R M, (35) 2101
Carter, W W, (141, 142) 78, *1421, (98) 1552
Cartledge, A. M, (49) 791
Caruthers, C K, 249
Carwardine, T, (10) 2005
Cary, L H, (184) 171
Casalis, G A, (41) 1284
Casoni, T, (125) 175
Casper, L, (58) 797, (77) 875, (110) 1282, (59) 1779, (29) 1823
Casper, M, (101) 572
Cassanello, R., (129) 178
Castleberry, W L, (4) 865, 1257, (82) 2102
Cassidy, P. B, (83) 1376
Cassirer, (78) 2301
Castellani, A, (116, 117) 260, (4) 442 (15) 1020, (116, 117, 118) 1188, (35) 1190, (21) 1906
Castelli, E, 1914
Caswell, H O, (135) 1188
Cathala, V, (18) 2235
Cathcart, F P, (20) 795
Cathcart, R S, (126) 793
Cattle, C H, (6) 171
Catz, A, (55) 1285 (63) 2007
Caulfield, A H, (126) 1057
Cautley, E, (29) 81, (1) 1282
Cavaccini, A, 665
Cavaillon, P, (17) 629
Cavazzani, G, (111) 2009
Cecil, J G, (118) 352, (124) 442, 1545, (91) 1733
Cerioli A, (96) 956
Chadwick, H. D, (72) 624
Chaillé, S E, (55) 867
Chajes, B, (105) 358, (49) 953
Chamberlin, W B, (81) 441
Chambers, G, (5) 1638
Chambers, P F., (44) 1279
Chamblee, Z B, (134) 1111
Chamot, E M, (56) 1103
Champion, W. L, (134) 170
Champneys, F. H, (40) 1284
Chandler, J. F., (22) 866
Chappelle, P, (71) 1040, (72) 2002
Chapin, C V, 42 (171) 970, *2015
Chapin, H D, 246, (40) 867
Chapman, V. A, (72) 1904
Chapman, W L, (147) 442
Chaput, H, (50) 1285
Charles, F, (21) 256
Charles, S R H, (11) 1820
Charlton, A R, (159) 171
Charlton, M, (143) 531, (106) 1644
Chase, C S, (67) 1375
Chase, D R, 545
Chase, W B, 1355
Chassaignac, C, (84) 279, (108) 1733
Chatard, J. A, (145) 534
Chauffard, A, (15) 1903
Chauvet, S (55) 2007
Cheatham, W, (114) 352
Cheatle, A H, (137) 1906
Cheatle G L, (14) 443, (12) 2093
Chemisse, L, (73) 82, (42) 953
Cheney, F E, 433, (2) 789, (121) 1905
Cheney, H W, (71) 709
Cheney, W F, (55) 76
Chenhall, W T, (33) 872
Chenoweth, J S, (80) 948
Cherry, T, (44) 81
Chesebro, E D, (78) 2091
Chevassu, M, (51) 1738
Cheyne, W, (124) 870, (43) 1284, (9) 1554
Cheyne, W. W, (2) 353
Chiari, H, (83) 1288
Chiarolanza, R, (64) 2096
Chierici, L., (116) 1651
Chiodi, W, (153) 1475
Chipman, E D, (95) 1281
Chirie, J L, (51) 81
Chisholm, A S M, (158) 1037
Chisholm, W, (26) 2006
Chitty, H, (8) 442
Chmelar, B, (151) 1044
Chotzen F, (63) 954, (102) 1116
Christian, F L, (79) 710, (10) 1031
Christian, H A, (3) 255
Christian, M, (100) 1650
Christian, E F, (41) 81
Christison, J T, (63) 168
Chrom, I P, (155) 1044
Chulthess, H, (77) 175
Churchill, F. S, *21, *1203, (99) 1819
Chute, A L, (15) 1184, 2284
Chuvin, M, (88) 876
Cianni, A, (134) 717
Citron, J, (57) 797
Claessner, P, (76) 715
Claiborne, J. H, (17) 2186
Clairmont, P, (101) 448, (110) 877, (91) 1649
Clapp, S H, (43) 1731
Clark, A H, 0
Clark, F D, (49) 1731
Clark, F. C, (118 143), 78, (42) 349
Clark, H. A, *857
Clark, H. C, (55) 1185
Clark, J F, *1221
Clark, J. G, (122) 260, (43, 47, 50) 81
Clark, J. P, (11) 1277, (92) 2092
Clark, L P, 169 (10) 1729
Clark, M A, (132) 626 (121) 1820
Clark, S M D, (57) 867
Clark, W A, 1787
Clarke, T. G, (51) 1903
Clarke, J J, (17) 795, (35) 1467
Clarke, J M, (11) 1283, (51) 1468
Clarke, W B, (18) 1190, (18) 2093
Clarke, W C, (15) 707
Claudius, M (111, 115, 116) 800
Clayton, F H A, (26) 354
Clayton Greene, W H, (15) 536
Cleaves, M A, (13) 1278
Clegg, J T, 1727 (71) 2001
Cleland J B, (24) 80
Clements I, (23) 866
Clements I M, (32) 1467
Cline C M, 1535
Clippinger R D, (24) 1278
Cloetta, M (99) 1740
Clogg H S (50) 536, (27) 872, (4) 1188, (115) 1771
Clopton, M B, (38) 709, (70) 1035
Clough I F *1607
Clow, G B N, (67) 1185
Clowe, C I, (55) 1643
Clowe, N B, (8) 1078
Cobb C M (4) 255
Cobb F (88) 1772 (94) 2089
Coburn, I B, (75) 549, (57) 916
Coca, A F, (53) 1909
Cochems F N (159) 1037
Cocks G H, (85) 1552
Codman E A 132, (16) 1639, (17) 1729, (4) 1815 (17) 1901, (17) 2001 (5) 2188 (19) 2234
Coen G, (124) 1290
Coenen H, (18) 1290, (71, 73, 77) 2103
Coffey R C, (115) 78, 780, *841, (67) 1109 1606 (22) 2001
Coffey, T, (70) 1818
Coffin, T H, (57) 76
Cogan, J J (107) 1037
Cohen, C, 460
Cohen, M S (66) 1109 1547 1898
Cohen, S S *989, *1519, (25) 1530
Cohn, F, *1224
Cohn, F, (110) 1259, (119) 1561
Cohn, L, (100) 1116
Cohn, M, (104) 2194
Cohn, S, (67) 670
Cohoe, B A, (57) 592
Coile, H P, (128) 1644
Coit, H L, (87) 351
Coke, H L (61) 1775
Colbert J W (130) 626
v Colditz, G T, (153) 171
Cole, H P, *1598
Cole, R I, (40) 1464
Coleman, J I, 1177
Coleman T D 1906
Coleman W H, (102) 352
Coley, W B 159, (120) 260 (135) 353, (31) 1372
Collet, F J (36) 797
Collier, H S, (99) 80
Collins, F T, *1051
Collins, E W, (115) 1188
Collins, G L, 1625
Collins, J, (14) 255, (71) 792, (89) 1643
Collins K R (157) 870, (52) 2002
Colt, G H, (14) 711
Colwell, R H, (50) 1731
Colyer, J F, (6) 353
Combier, V, (57) 2007
Combs, R L (54) 2090
Comby, J, 1367
Comessatti, G, (117) 1473
Commandeur, F, (56) 446
Comroe J H, (78) 1732
Cone R S, (148) 442
Confalonieri, L, (113) 2099
Conger, A B, (8) 1901
Conklin, D B, (113) 170
Connal, J G, (24) 261
Connell, F G, (34) 2001
Conner, L A (28) 439
Connor, L, (107) 442, (134) 1188, *1833
Conover, S, (135) 1820
Conradi, H, (73) 631, (78) 799
Conti, (128) 1914
Conto, M, (129) 634
Conwell, W F (56) 2188
Cook, A G, 471 (47) 2185
Cook, C P, *917
Cook, F R, (2) 1900
Cook, H W, (60) 1035, *1692
Cook, I S, 342
Cook, J B, (90) 537
Cook, J R, (104) 1037
Cook, W. H, (21) 439
Cooke, A B, (96) 259, (47) 1140
Cooke, C O, (107) 1377
Cooley, C O, (161) 950
Coolidge, E L, (51) 867
Coolidge, F. S, 131, (3) 1469
Coons, J. J, (34) 707
Cooper, C. E, (66) 948
Cooper, C. M, (55) 168
Cooper, J. B R, (97) 352
Cooper, S C, 250 (70) 1552
Cooper, W. F, (49) 1039
Copeland, E P, 1366
Corbett, F., (81) 1643
Corbus, B. C, *1928
Corbusier, H. D, (49) 623
Cordier, A H, (58) 1612
Cornell, W. B, (63) 1035
Corner, E M, (7) 171, (83) 1038 (2) 1377, (37) 1379, (2) 1166 (4) 1167, (20) 1554, (143) 1734, (27, 29) 1736, (11) 2005
Cornil, V, (63) 81, (71) 1039
Cornillot, (47) 597
Cornwall, E. E, (145) 442, (147) 1906
Cornwell, H C de V, (50) 1817
Corser, J B, (119) 1037
Corson, E C, (100) 1187
Corson, E R, (53) 1034
Corson G R S, (121) 1037, 1456 (78) 2189
Cortelyou 1261
Costantini F, (153) 360
Coston H R, (163) 1189, (37) 1816
Cott, C F, *455
Cottard, E, (43) 629
Cotte, G, (51) 1285
Cotton, F. J, 431, (13) 1729
Cotton, H A, (61) 868
Cotton, L F, (1) 1105
Couch, J K, (34) 1555
Coudray, P, (71) 1039
Coulthard, G H, 1535
Courcoux (22) 2236
Courmont J (47) 355, 1258, 1447
Cousins, J W, (12) 79
Couteaud, (44) 865 (45) 629
Coutts, J. A, (90) 1112
Couvelaire, A, (37) 354
Cowley, R H, 1546
Cowling, H. A, (63) 1552
Cox J J, (29) 1038
Cragin, E B, 71, (41) 707 (90) 1076
Craig C F, (30) 256, (123) 950, (108) 1187
Craig, D H, *1507
Craig F A, 1628
Crandall, G C, *756
Cranner J B, (106) 1466
Cranwell, D J, (61) 2007
Crawford, D G, (37) 1737
Crawford G S, (15) 871
Crawford J H, (35) 1551
Crede (60) 713
Creech C B, (49) 1185 1554, (94) 2189
Creite O (74) 2007
Crendiropoulo, M, (50) 1737
Crile G W, 158 (1) 165, (100) 260, (91) 869, (75) 1375 (20) 2088 *2056
Crisler, J A, (46) 440, (51) 1071
Crispin, A M, *1154
Crofton A C, (6) 530, 1724, (23) 2186, (123) 2274
Crofton, W M, (16) 1467
Crohn, P B, (20) 1033
Cronin J J, 1367
Cronson R, (38) 349
Crool, J L, (96) 1377
Croom, A B (40) 1108
Cropper, J, (5) 442
Crossen, H S (68) 1035, 1355
Crossley, A, (3) 626
Crothers, T D, (45) 349, 1625, (24) 1730, 1890
Crowe, C W, (10) 871
Crowe, S J (85) 77
Cruet P., (53) 1380
Cruikshank, G E, (7) 865
Crume G P *2155
Crummer, L, (27) 1730
Crutcher, H, (129) 676
Cryer M H, *1170
Crzellitzer, (81) 2009
Cudmore, A M, (35) 1555
Cuff A, (13) 443 (3) 870
Cullom, M M, (98) 1377
Cumston, C G, (129) 442 (91) 597, (55) 708 (9) 865 (86) 948 (119) 949, (19) 1190 (103) 1282 1458 (84) 1643, (85) 1646, (95) 1816, (38) 1907 (16) 2001 (25) 2186
Cumpston, H, (23) 80 (93) 1112
Cunning J, (27) 1190
Cunningham H H B, (10) 627, (122) 1905
Cunningham, J H (15) 2281
Curcio, A, (141) 268, *1574
Curdy, R J, (118) 1905
Curl H C (93) 2187
Curran, F I, (14) 1729
Curran, G R, (4) 1551
Currie P, (27) 1645 [illegible]

Currie, O J, (7) 442
Currie, T R, (80) 2189
Curtin, R G, (69) 2188
Curtis, H H, (18) 348
Cutts, R M, 700, (131) 1553
Cusher, L M, (20) 707
Cushing, H, (30) 74, (159) 870, (31) 1902
Cuthbertson W, *965
Cutler, J C, (102) 534
Cutter, E, (80) 1280, (71) 1904
Cutter, I A, (78) 710
Czaplewski, E (114) 1560
Czastka, W (122) 266
Czernecki, W, (105) 1913
Czerny, V, (52) 713
Czyzewicz, A, (143) 360

D

Dabney, S G, (158) 1188
Dabney, W R, (140) 950
Daels, F, (60) 1113, (47) 1555, (50) 1646
Dahlgren, K, (113) 541
Dakin, H D, (44) 1731
Daland, J, *747
Dalton, E C, 2075
Dalton, H C, (59) 1642
Damanski, E, (106) 1289
Damant, G C C, (25) 2190
D'Amato, L, (104) 177
Dammert, F, (60) 1193
Daneel, P., (77) 1287
Daniel, A, (50) 355
Daniel, J F, (46) 1817
Daniel, P, (15) 2093
Daniels, C W, (20) 1906
Danielsen, W, (63, 66) 2193
Dannreuther, W T, (10) 348
Dapas, F, (116) 266
Darling, S T, (22) 1816
Darnall, W E, 700, (98) 1167
Dartigues, L, (60) 81
Daugherty, C G, 1544, (96) 2189
Dautwiz, (106) 1472
David, C, (56) 1469
David, O, (67) 2096
Davidsohn, C, (98) 266
Davidsohn, F, (60) 174, (73) 1380, (81) 1470
Davidson, A, (133) 1734, (21) 2006
Davidson, A J, (13) 1361
Davidson, H A, (85) 351
Davies, A M, (13) 871
Davies, D S, (11) 2235
Davis, A B, (46 49) 2002
Davis, A E, *292
Davis, B B, (72) 258
Davis, C M, (165) 171
Davis, D J, (23) 1816
Davis, E P, (29) 167, (99) 1281, (74) 2189
Davis, E A, *1200
Davis, F A, (113) 1188
Davis, G F, 689, *1754
Davis, G G, 526
Davis, J D S, 1558
Davis, J E, 786
Davis, J L, (91) 441
Davis, J S, (86) 77
Davis, R C, (35) 256
Davis, T D, 340, (144) 1188
Davis, T G, (142) 1282
Davis, W, (132) 793
Davison, R E, (11) 865
Dawson, P M, (154) 870
Dawson, W R, (25) 172
Day, E W, 1356
Day, H F, (16) 2234
Day, L E, (70) 1375
Deaderick, W H, (122) 442, (12) 530, (135) 870, (63) 1375, (83) 1733, (87) 1819, (61) 2003
Dean, L W, (117) 1466
Deane, L C, *997
Dearden, W F, (21) 871
Deaver, J B, (103) 260, *374, (107) 534, (110) 949, (86) 1186, (48) 1641
Deavor, T L, (80) 1110
Debat, (43) 713
de Beaurepaire, H (119) 2197
De Besche, A, (132) 178
De Beurmann, (43) 1737
DeBlasi, A, (122) 1914.
Debove, (58) 81, (32) 796
de Bovis, R, (70) 82, (52) 174, (51) 1556 (62) 1738, (73) 2009
Debré, R, (45) 174
DeBuys, L R, (90) 1819
v Decastello, A, (83) 2009
de Chumas, D E (44) 1039
Dedman J E, (85) 1819
Deehan, S J, (112) 869
Deeks, W E, (10) 1371 (7) 2000, (14) 2233
Deeleman, (123) 267
Deetjen, H, (93) 176
de Forest, H P, (57) 1903
de Francesco, D, (52) 1909
DeGaris M C, (34) 1378
DeGarmo, W B, 1722, 1835
de Gaulejac, R, (31) 796
de Grieuwe, A, (142) 359
Degrais, (37) 797
de Haan, J, (70) 1738
Dehner, (88) 1381
de Jong, S I, (17) 628
de Kervilly, M, (50) 81
DeKraft, F, 1890
DeKraker, J M, (114) 1466
de la Carrière, C, (66) 10
Delamere, H S, (69) 1185
Delaney, M D, (21) 531
Delatour, H B, (161) 171, (6) 944, (103) 949, (3) 2000
Delaunay, H, (67) 1039
Delaup, 1844
Delaup, S P, (58) 867
Delavan, D B, (15) 438, (83) 2092
Delbet, P, (61) 81, (40) 173, (38) 354
Delearde, 332
delle Chiaje, S, (117) 177
Delmont Bebet, M, 399 (40) 1821
Delopé, C, (156) 1734
Delore, X, (44) 629
Delug, H, (168) 87
de Martel, T, (59) 1738
de Meyer, J, (31) 2094
Demmler, A, 1251
de Montet, C, (77) 2009
Dempsey, A, (15) 1377
Dench, E B, (88) 1552, (90) 2092
Denison, C, (167) 950, (111) 1644
Denison, H S, (44) 1461
Dennis, W A, (108) 1905
Denny, C F, (134) 793
Denslow, L N, (4) 2000
Dent, C T, (35) 1646
DePage, A, (22) 1551
de Ponthière L, (45) 2191
de Prenderville, A, (37) 1646
Derby, G S, (120) 1282
Dercum, F X, *108, (109) 169, (2) 530, (73) 792
Derome, W J, (102) 1643
Desfosses, P, (68) 1039, (45) 1555
Desgouttes, L, (72) 1039
Despard, D L, (142) 1734
d'Espine, A, (38) 173
Desquevroux, (13) 1907
Dessauer, F, (78) 264, (106) 358
Desteffani, P, (121) 1914
Des Voeux, H A, (7) 1111
De Tarnowsky, G, (75) 1313
Determann, (139) 85
Detre, L, 1362, (112) 1741
Deutschmann, R, (77) 799
de Vasconcellos, F, (32) 2094
Dever, F J, *673
Devic, (68) 2008
Devic, E, (51) 1113, (57) 1286
Devine, W S, 2173
Devloo, R, (47) 1555
DeWald, G L, (39) 256
Dewing, O M, (146) 442
DeWire, M V, 523
DeWitt, J F, (70) 1732
Deycke, G, (86) 1739
Dick, J S, (6) 1111
Dickey, J L, (154) 950
Dickey, T A, (27) 790
Dickey, W A, (25) 623
Dickinson, R L, 70, (39, 40) 623
Dickinson, S W, (72) 2003
Dickson, A G, 249, 250, (93) 710, (129) 1906
Di Cristina, G, (97) 1913
Dieffenbach, W H, 1714
Diem, M, (87) 1559
Dienst, A, (145) 360, (52) 1646
Diesing, F, (84) 2009
Dietlen, H, (78) 1194, (88) 1740
Dietrich, A, (83) 539, (70) 875, (67) 1911
Dietschy, R, (74) 264, (76) 875
Dieulafoy, (44) 173, (40) 263, (36) 2094
Dieupart, (41) 712
Di Giuseppe, T, (123) 450
Dildy, J E, (102) 1904
Dilg, P, (75) 264
Diller, T, 69, (125) 442, 1525, 1629
Dillinger, G A, (123) 1037, 1456
Dillon, D H, 2079
Dimmitt, A, (105) 352, (46) 1185
Dinnis, A, (18) 2190
Disen, C F, (17) 255
Ditman, N E, (11) 348
Ditthorn, F, (72) 631
Dixon, D P, (156) 78
Dixon, S G, *380, 942, (11) 1031, 1357
Dixon, W E, 1525
Dluski, K, (64) 874
Doak, F. W, (24) 2006
Dobisch, A, (128) 2197
Dochez, A R, (146) 1111
Dock, G, *699, *1119, (63) 1465, (20) 1550, 1634, 1899, (67) 2091
Dodd, O, 1255
Doderlein, A, (119) 1117
Doerr, R, (107) 717, (86) 799, (90) 1040, (63) 1823
Doherty, W B, (84) 351
Dohn, S, (125) 634
Dohrn, M, (67) 446, (54) 954
Dolger, R, (128) 1117
Doll, (108) 1826
Dolley, D H, (26) 2089
Don, A, (28) 261, (4) 2234
Donald, W M, (173) 171, 784
Donaldson, C A, 1632
Donaldson, H H, 68
Donavan, J A, (20) 790
Donhauser, J L, (161) 870, (24) 1184
Donley, J E, (80) 2091, (12) 2187
Donnelly, J F, (17) 706
Donohoo, P, (80) 792
Donovan, J A, *312
Dopter, (121) 442, (51) 2007
Doran, A H G, (11) 353, (12) 2190
Doran, T R, (51) 2192
Dorland, W A N, *1227
Dorr, R C, (128) 1906
Dorsett, W B, *957
Dorsey, J G, (132) 1111
Dougherty, J P, (57) 1375
Douglas, A J, 940
Douglas, C C, (12) 871
Douglas, C J, (17) 1032
Douglas, J, (5) 1276
Douglas, L M, (27) 1351
Douglass, A G, (82) 1819
Dowd, C H, 1364
Dowd, C N, (31) 1033
Dowden, A P, (72) 948
Dowling, F, (70) 76
Dowling, O, (73) 441
Downie, W, (20) 1644
Downs, A J, (88) 533, (119) 1819
Doyle, O W, (83) 351
Drage, H L, (6) 2005
Drake, C J, (58) 1280
Dreher, J D, 1720
Dreifuss, A, (85) 632
Drennan, J G, (31) 1033
Dresler, K, (94) 632
Dressmann, (70, 83) 1648
Drew, D, (16) 1554
Drewry, W F, (23) 1730
Dreyer, L, (64) 2193
Dreyfoos, M, *840
Drinkwater, H, (10) 2190
Drueck, C J, (59) 791
Drummond, D, (9) 172
Drury, A G, (21) 1278, (18) 1372, (18, 23) 1462, (22) 1550
Drysdale, H H, (88) 869
Duane, A, (99) 793
Dubois, 332
DuBose, F G, (59) 441, (53) 1279
Dubreuilh, W, (27) 172
Duckering, G E, (27) 2190
Duckworth, D, (22) 354, (1) 952, (135) 1734, (22) 2190
Ducroquet, M, (60) 1738
Dudgeon, L, (5) 951
Dudgeon, L S, (20) 2190
Dudley, C R, (84) 1904
Dudley, F W, *991, *2143
Dudley, W H, (126) 1282
DuFour, C R, (147) 171, (93) 441
Dufour, R, (49) 1822
Duggan, M, (82) 1281
Duhrssen, A, (91) 358, (50) 630, (94) 1740
Duke, W W, (68) 169
Dukeman, W H, (15) 622
Duncan, C H, (38) 1551
Duncan, H A, 71, (11) 166, (13) 1183
Duncan, J, (74) 792
Duncan, J L, (140) 170
Duncan, L C, (84) 169
Duncan, R B, (40) 1555
Dunger, R, (89) 1381
Dunhill, T P, (35) 873
Dunlap, G H M, (12) 951
Dunlop, J, (120) 170
Dunn, A D, (74) 1465
Dunn, C H, *15, 66, (52) 708, (100) 1819 (15) 2234
Dunn, H P, (2) 951
Dunn J F, (16) 2233
Dunn, J S, (46) 445
Dunn, J T, (88) 351
Dunn, W W, (29) 1462
Dunton, W R, (25) 945
Dupont, H, (30) 712
Duprey, A J B, (10) 794
Dupuy, H, (80) 259
Dupuy, R, (49) 1285
Durham, R, (89) 1036
Durig, F, (114) 877
Durno, L, (8) 171
Dutton, C L, 1634
Dutton, W F, (75) 710, *1496
Duval, C W, (129) 78, (152) 870, 1362, (41) 1903
Duval, H R, (43) 629
Duval, P, (45) 263, (46) 1822
Dyde, C B, 1272
Dyer, I, 513

E

Eager, J M, (14) 1815
Eagleson, J B, (118) 534
Earle, H G, (19) 1111
Eastman, J R, (11) 706, (140) 1188
Eastman T B *972 (143) 1188
Easton, C, (136) 793
Eaton, F. B, (99) 1466
Eaton, J L, (153) 1188
Eber, A, (131) 1117, (48) 2095
Ebner, A, (50) 1822
Ebright, G E, *1566
Ebstein, W, (101) 83, (53) 954, (131) 1471
Eccles, R G, (20) 167, (5) 706, (25) 1462
Eccles, R H, (18) 1107
Eccles, W M, (44) 349
Echols, C M, 144, (29) 1107
Eddowes, A, (25) 1820
Edelen, C A, (81) 948
Edes, R T, (28) 2186
Edinger, L, (99) 632
Edmondson, C S, (83) 1186
Edmondson, J, (16) 711
Edmondson, R H, (131) 534
Edmunds, C W, (44, 45) 1817 *2130
Edridge Green, F W, (31) 1283
Edsall, D L, *1909, (14) 2186
Edson, C E, 1178, 1254 (3) 2098
Edwards, A D, (7) 535, (29) 1112, (10) 1735
Edwards, R T, (68) 532
Edwards, W. A, (130) 170
Edwards, W. L, (13) 627
Egan, W L, (86) 259
Eggenberger, H, (116) 2012, (75) 2097
Egger, M, (48) 1909
Eggers, H E, (25) 256
Ehrendorfer, E, (48) 1646
Ehrenfest, H, (42) 1279
Ehrlich, F, (79) 1114
Ehrlich, H, (186) 87
Ehrmann, R, (63) 798, (71) 875
Ehrmann, S, (109) 1116
Eichberg, J, *1000, (63) 17[illegible]2
Eichler, F, (79) 356
Eiker, B L, (66) 1375
Einhorn, M, (10) 73, (57) 174, (75) 175, (16) 255, (60) 441, (2) 944, (68) 1114, (88) 1115
v Eiselsberg, A, (103) 877
v Eiselsberg, A F, (33) 1107
Eisenberg, P, (50) 445
Eisendrath, D N, *406, (35) 2089
Eisenstein, K, (110) 541, (117) 2012
Eising, E H, (13) 789, (41) 1033
Eitner, E, (171) 87
Ekehorn, G, (125) 1652
Elder, D, (3) 626
Elder, G V, (17) 2190
Elderton, W P, (23) 1377
Elgood, B S, (17) 1906
Elgood, O, (16) 2234
Elias, H, (74) 87, (112) 266
Eliot, E Jr, (106) 1819, (42) 2090
Ellenbeck, (82) 1912
Ellermann, V, (156) 1044
Elliot, L, (55) 440
Elliot, R H, (39) 445
Elliott, A. R, (19) 1550, 1633, (65) 2091
Elliott, C A, 1235
Ellis, A G, (31) 1550
Ellis, A N, (23) 1278
Ellis, B K, (84) 1376
Ellis, H, (14) 348
Ellis, H B, (70) 868
Ellis, L E, (38) 1284
Ellis, R, (14) 530
Elmer, W P, (190) 171, (30) 1550, (7) 1900
Elsberg, C A, (39) 74
Elschnig, (75) 447
Elsner, H, (53) 264
Elsner, H L, (138) 626
Elsner, J, (143) 870
Elterich, T J, 1179
Elting, A W, (35) 2002
Elwell, R G, (22) 795
Ely, F A, (126) 260
Emerson, F P, (143) 950
Emerson, H, (27) 348
Emerson, H C, (17) 1184
Emerson, K, (4) 1549
Emerson, L, (101) 1187
Emery, W D, (29) 261
Emin, (68) 2097
Emley, S C, (130) 1553
Emmerich, E, (147) 86
Emmerich, R, (117) 266, (121) 1290
Emmert, J M, (56) 1818
Emmett, M W, (74) 1375
Emrys Roberts, E, (8) 710
Enderlen, (66) 1380
Enders, L, (102) 1041
Enders, W H, (167) 171
Engel, (123) 2197
Engel, C S, (62) 174, (98) 1382, ([illegible]9) 1823
Engel, H, (68) 1911
Engel, K, (121) 359
Engeland, R, (76) 955
Engelbach, W, (64) 1903, (82) 1901
Engelmann, F, (29) 414, (62) 1113, (139) 1117
Engels, F, (91) 1740
Engles, O, (110) 1733
English, D E, *1750
English, S B, (68) 869
English, T C, (22) 1190
Enslin, E, (110) 449

Eppinger, H (175) 87 (140) 1175
Epstein A A (88) 866
Epstein S (97) 441 (112) 1819
Erb W (94) 1912
Erben F (11) 1806
Erdman B, (125) 78
Erdmann F F (111) 949, 1178
Erhardt F (92) 510
Ericsson F (114) 1741
Erkiletian D H (90) [illegible]2
Erlandsen A (148) 1041, (68) 1470, (158) 1475
Erlanger J, (29) 499
Ernest, H C 445
Ernst O (4) 670
Erving W G, (99) 77
Esau P, (87) 1040
Esch P, (95) 709 (100) 1289, (127) 1561
Eschbaum O (64) 264
Eschle (109) 1042
Esmein C (54) 1738
Es[illegible] P, (132) 85
Esser (94) 176 (97) 1041
Esserlin M (108) 633
Estes W L, (110) 84, 1178, (76) 1732
Eston F, (64) 446
Estor E, (54) 1359
Ethridge M D (131) 1282
Ettore E, (136) 718
Eulenburg A, (64) 954 (75) 955
Eurich F W, (20) 712
Evans, G B, 1806
Evans H M, (145) 1111
Evans J H, (32) 1112, (6) 1466
Evans J J W, (10) 1466
Evans, J S, (38) 860
Evans, S G, (100) 1733
Evans, T C, (97) 1642
Evans W, (19) 1554
Evans W A (78) 551, 1899
Eve, F, (3) 353
Eve F C, (25) 1190, (32) 1467
Ewald C, (106) 1650
Ewald K, (121) 450
Ewald, P, (80) 175
Ewart, W, (28) 444 (97) 1281
Ewens G F W, (38) 445
Ewing D A, *2060
Ewing, F C, (77) 792
Ewing, I E *1586
Ewing J, 253
Exchaquet, E (48) 1113
Exner, A, (82) 176, (10) 713
Eycleshymer, A C, (63) 709, (72) 1035
Eyre J W H, (1) 171, (1) 260, (4) 353
Ewell A, (79) 264
Eyster J A E, (47) 1464
v Ezdorf, R H (19) 1901
Ezio C, (94) 1195

F

Fabian R, (86) 1115
Faber K, (119) 1826
Fabre J, (46) 263
Fackenheim W, (122) 1042
Fagge C H, (32) 1821
Fairbank, H A T, (2) 260, (114) 1038
Fairbanks A W, *1946
Fairbrother, H C, (189) 171
Fall E, (120) 359, (54) 797, (95) 2011
Falkenstein (89) 1288
Falta W, (175) 87, (135) 634, (140) 1475
Farbach H J (99) 2189
Farmer C, (53) 1185
Farr C B (39) 1462
Farr, R E, (88) 259
Farrand, L, 1358 1899
Farrar C B, (109) 1187
Farrell, J J (79) 792
Fasano M (145) 1118 (114) 1914
Faucett, G L, (138) 1111
Faught, F A, *643, (81) 1280
Fauntleroy A M (86) 2184
Fauntleroy, P C, (48) 623
Faure J L, (39) 354
Favill H B 1725
Faykiss F, (44) 797
Federmann, (69) 631 (105) 2194
Feer E, (45) 1439
Fehling H, (53) 535
Fehsenfeld G, (88) 540
Feidt W W 1630
Feilchenfeld W, (80) 1470, (92) 1825
Fein J, (80) 1649
Feinen (74) 1648
Feiss H O (118) 1377, (140) 1820
Fejer J, (127) 1282
Feldstein Z, (16) 865
v Felegyhazi L (86) 632
Felice M F (148) 1044
Felici F (128) 1290
Fell A G, 1542
v Fellenberg R, (76) 1824
Fellman G H, 573
Fellner O O (101) 1382
Fell A, (14) 79
Fendler, A M, (64) 532
Fenner, E D, (79) 259
Fenton W J, (19) 1467
Fenwick, E H, (16) 443
Fenwick P C, (15) 951
v Fenyvessy, B, (8) 620
Fergus F, (45) 2007
Ferguson A H, (38) 167, *551
Ferguson, R (107) 1041
Fernandez, E 777
Ferrin, C, (101) 265
Ferrand, 76
Ferrari M, (114) 1283
Ferraris Wyss J, (85) 715
Fest F E B, (51) 49
Fetterolf, G, (59) 2188
Fieschi, T, (4) 872, (33) 1555
Fibiger, J, 1255, (76) 2096, (81) 2191
Fiel, F, (127) 631
Fiel, R, (9) 710
Fiedler, E, (95) 2191
Field D L, (129) 1820
Fields F R, 1655
Fiesinger, N, (66) 446
Fiessler, A, (119) 1117
Fife, C A, 248
Figueira, M, (106) 949
Filitrean, R N, (70) 1185
Finck C, (58) 1286
Finckh, E, (74 75) 1114
Finder, (77) 356
Findlay, L, (12) 449 (49) 445
Findley, P, 69, (74) 258, (35) 623, (28) 1033
Fink, M, 249, (149) 970
Finley, F G, (80) 1375
Finney, E, (102) 1110, (118) 1641
Finney, J M T, (153) 352, (124) 793, *1291
Finsterer, H, (77) 1114, (75) 1287
Fiore U, (101) 799
Fisch, M, (85) 176
Fischer, B, (87) 1471, (105) 1560
Fischer, H, (72) 446
Fischer, J, (78) 447, (111) 1913
Fischer, J J, (158) 1041
Fischer, L, (118) 442, (1) 621, (109) 949, 1627
Fischer, L C, *1693
Fischer, M H, *830
Fischer, W J, (103) 442
Fischler, (71) 446, (106) 633
Fisher, C, (125) 1282
Fisher, I, 1255, 1725 1811
Fisher, J T, (128) 170 (51) 349
Fisher, M K, (14) 1462
Fisher, T, (23) 536
Fishman, C, (61) 350
Fisk, C W, 1727
Fiske, G, (78) 411
Fitch, R R, 343
Fitzgerald, J G, (120) 1037
Fitzgerald, A L, (120) 78
Fitzgerald, W H, *916, (13) 1901
Flael, M, (7) 1554
v Fleet, F, 862
Fleischer, F, (56) 174, (76) 1381, (53) 2096
Fleischmann, K, (112) 1913
Fleissig, P, (84) 265
Fleming, A, (26) 80
Fleming R A, (17) 354
Flensburg, C, (121) 1652
Fletcher, F A, (96) 1552
Fletcher, M H, *2113
Fletcher, W, (10) 710
Flexner, J A, (175) 171, (54) 1185
Flexner, S, 65, *269, (29) 1184, (98) 1819
Flick, L F, 1255, 1262, 1269, 1360
Flinn, J Q, (136) 1282
Flint, C P, (58) 441, (65) 624, (33) 1033, (33) 1640 (38) 2089
Flinzer, E, (62) 264
Floersheim S (48) 1817
Florcken, H, (98) 358
Florence, J H, (166) 1189
Floyd C, 1366
Foderl, O, (114) 266 (120) 450
Folles H M (93) 2004
Fonahn, A, (131) 178
Fontaine, B W, (65) 1375, (97) 2092
Fontana, A, (113) 1914
Fontoynont, (52) 1380
Fonzo, (116) 2100
Foote, C J, 339
Foote, E M, (121) 260, (4) 944
Forbes, A M, 343
Forbes, E A, 323
Forchheimer, F, 432, (1) 705, (105) 793
Ford C M, 1177
Ford W B, 1168
Fordyce, J A, *1398, (47) 1641
Forgue E, (62) 2007, (20) 2236
Forlanini, C (85) 2098
Forli, V (123) 1914
Fornet (18) 871
Forschbach, J, (107) 81
Forselius, C O, (145) 1744
Foscue, G B, (94) 793
Forster, E, (89) 1115
Forsyth C B *1972
Forsyth, D, (39) 262
Forsyth, N C, (1
Fort, A G, (135) 626
Fort, F T, (57) 1185
Fort, J T, (114) 1900
Fortescue Brickdale, J M, (32) 629
Foscue, G B, 1351
Foster, E P, (7) 1371
Foster, G B, (101) 869
Foster, J H, (183) 171
Foster, M L, (116) 352, (36, 40) 916
Foster, N B, (28) 2089
Foster, N I, (5) 916
Fothergill, W. L, (37) 263, (24) 2093
Foulkrod, C (36) 1902
Fowler, A L, (124) 626
Fowler, L P, (48) 1279, (87) 1552
Fowler, H A, (15) 622
Fowler, J K, (2) 793, (5) 794
Fowler, R H, (24) 1640
Fowler R S, (64) 1642, (59) 1903
Fox C D, (8) 2185
Fox, E W, (157) 1037, (66) 2188
Fox, G R, (78) 259
Fox, F T, (13) 172
Fox, L W, (95) 949, (139) 1037, 1177, (104) 17[illegible]5
Fox, R H (23) 628
Fox, W, (18) 531, (71) 1612
Foxwell, A, (1) 2092
Fraenkel, A, (51) 55 (102) 2099
Fraenkel, C, (112) 1042
Fraenkel, E, (108) 449
Franchini, G, (86) 1288
Francioni, C, (77) 1912
Francke, K, (63) 1557
Franco F L, (124) 1474
François Dainville, (45) 355
Frangenheim, P, (73) 264, (58) 1556
Frank E R W, (128) 85
Frank, E, (103) 1472
Frank, L, (131) 442, 1457
Frank, M, *1150
Frank, R T, (14) 2088
Franke, F, (115) 2012
Frankel, J, (126) 1117
Frankenstein, K, (146) 1043, (97) 1826
Frankhauser, F. W, 1178, (108) 1252
v Frankl Hochwart, L, (105) 877
Franklin, C E, 1357
v Franqué O, (75) 955 (134) 2198
Franz, K, (60) 538
Franz, R, (118) 450
Frascella, P, (108) 800
Fraser, J S, (58) 1039
Frazier, C H, 69, (34) 1108, (62) 1109, 1543
Frazier, J M, (82) 1281, (55) 2090
Frederick, C C, (34) 623, *834, 1457
Freeman, A W, 940
Freeman, G F, (80) 169
Freeman, L, 1272
Freeman, R G, *285
Freer, O T, (136) 78, *222, *815
Freiberg, A H, (44) 167, 342, (116) 1552
French, H, (33) 262
French, H T, 1635
French, J M, (98) 949
Fretz, O H, 1455
Freudenberger, H C, (152) 1188
Freund, H, (120) 1561
Freund, H A, (78) 1904
Freund R, (63) 1738 1896
Freund, W A, (126) 1561
Freundlich, D B, (11) 255
Friberger, R, (118) 800
Fricker, E, (62) 1910
Fridenberg, P, (141) 170, (132) 870, (125) 1188, (114) 1905, (87) 2092
Friedberger, L, (66) 1470
Friedemann, G, (124) 267
Friedenthal, H, (65) 1470
Friedenwald, H, *483
Friedenwald, J, (43) 349, (15) 944
Friedjung, J K, (70) 1380
Friedländer, A, *2125
Friedlander, A A, (120) 1473
Friedlander, J, (78) 175
Friedländer, R, (119) 634
Friedman, L V (32) 2001
Friedmann, L, (98) 799
Friedmann, M, (106) 84
Friedrich, P L, (99) 1116, (53, 54) 1909
v Frisch, O, (54) 1556, (107) 1650
Frissell, L F, (28) 1816
Fritsch, H, (103) 1041
Fritsch, K (75) 2193
Froehlich (99) 1382
Fromm, W, (76) 1287
Fromme, F, (111) 1383
Frommer, V, (140) 1117
Frothingham, C, Jr, (105) 869, (48) 1903
Frugoni, C, (53) 171, (54) 1192, (61) 1823
Fry, F R, *13, (70) 1075
Fry, H D, (46) 167, *2041
Fuchs, E, (27) 1283
Fuerstenberg, (74) 447
Fulci, F, (97) 956, (120) 284
Fuld, E (129) 2197
Fuller, W, (27) 1107
Fullerton, A, (21) 1551
Fullerton, R, (24) 172
Fulton, C L, (76) 792
Fulton, D, (33) 531
Fulton, F T, (17) 1639, (16) 1729, (5) 1815
Fulton, J. S, 513
Funk, D S, (101) 534
Funke, J, (53) 947
Fürst, V, (136) 1743
Fussell, M H, (24) 866, *962, 1249
Füth, H, (100) 1472
Fyshe, J. C, (157) 171

G

Gabriel, (58 59, 72) 174
Gabrilowitsch, 1448
Gage, H, (35) 1372
Gaines, L M, (105) 1466
Gaines, W D, (20) 622
Galippe, (39) 712
Gallant, A L, (16) 1278, *1568
Gallavardin, L, (28) 796
Galli, G, (50) 953, (71) 955, (118) 2012
Galli, P, (129) 450
Galligaris, G, (117) 2100
Gamaleia, N. T, (64) 1738
Gamgee, A, (9) 1038, (4) 1282
Ganghofner, (110) 1741
Gans, H, (77) 631, (117) 1117
Gans, S L, (75) 1642
Gant, S G, (15) 790
Gantt, L R. H, (108) 1552
Garceau, A, (18) 1820
Garceau, E, 512
Gardère, (57) 446
Gardiner, C F, (114) 1644
Gardiner, F, (24) 1820
Gardner, A E, (120) 1111, (106) 1377
Gardner, F E, (40) 1730
Garkisch, A, (136) 2198
Garlipp, (114) 634
Garner, H B, 784 (67) 1465
Garnier, 514
Garrison, P F, (30) 1185
Garrod, A E, (1) 442, (1) 535, (2) 696, (2) 710
Garrow, A L, (156) 171, (144) 534, (37) 1730 257, (116) 1282
Gasser, H, (28) 1372
Gaston, J McF, (15) 1032
Gates, E L, (41) 1185
Gatti, G, (56) 1909
Gauckler, E, (27) 796
Gaujoux, F, (29) 173, (37) 629, (37) 112, (42) 1907, (44) 2191
Gault, A H, (30) 2006
Gaultier, R, 421
Gaver, E E, *9
Gavin, G E, (37) 1551
Gay, F P, (92 93, 97, 102, 115), 869, (58) 1469
Gayet, (47) 1285
Gayler, W C, *674
Gaylord, H R, 252, (55) 2003
Gebele (109) 84, (28) 1112, (14) 1189
Gehring E W *2038
Geier, O P, (86) 351
Geiger, A J, (44) 1108
Gellhorn, G *1839
Gelmuyden H C, (123) 878
Gemmell, J. E, (26) 952, (20) 1093
Gengenbach, F P, (132) 260
George, A W, (2) 165, (14) 1184
Géraudel, E, (47) 174, (43) 1191
Gerhardt, D, (95) 1041
Gerhartz, H, (63) 874
Geyser, A C, 1890
Gerrard, A. H, (38) 1871
Gerrard P N, (54) 1469
Gerstenberger, H J (144) 1282, *1328
Getchell A C, (117) 696
Gewin, W. C, (151) 78
Geyser, A C, (45) 256
Ghedini, G, (135) 267, (125) 450
Ghent M M, (107) 1905
Ghisellini, G, (129) 717
Giacomo, M, (102) 799
Giannelli, A 515
Gibb, J, 1455
Gibb J A, (13) 535
Gibb, J S, (69) 1801
Gibbon J H, (31) 167, 1543, (142) 1774
Gibbon R L, *840
Gibney, V P, 342, (12) 789, (113) 1552
Gibson, A. G, (10) 2003
Gibson, G A, (99) 1643, (2) 1820
Gibson, J. A, *2103
Gibson, J D, 1890
Gibson, J L, (11) 2003
Giemsa, G, (79) 799
Gierlich, (81) 1825
Giffhorn, H, (105) 177
Gifford, N. H, **242**
Gilbert A, **(39)** [illegible] 2094

McBride, P., (18, 19) 1467
McBride, R. E., (74) 1552
McCabe, W. M., (63) 2003
McCall, 1632
McCalla, L. P., (82) 1732
McCampbell, E. F., (22) 1184
McCann, F. J., (27) 952
McCarrison, R., (2) 1906
McCarthy, D. J., (73) 1186, 1367
McCarthy, F. P., (120) 626
McCarty, H. D., *2156
McCaskey, G. W., *1653, 2074
McChord, R. C., (62) 1185
McClain, C. A. R., (115) 534
McClanahan, A. C., *918, (60) 1465
McClanahan, C. H., (155) 1037
McClanahan, H. M., (110) 626, (73) 2091
McClellan, G. B., (69) 1465
McCloskey, C. J., (107) 169
McComb, J. A., (87) 1904
McConnell, G., (47) 167, 251, (10) 530, (101) 869, *910, (42) 1903
McConnell, J. F., (67) 948, 1271
McCormack, J. N., (80) 351, 521, 1882
McCosh, A. J., (143) 353, (2) 1183
McCown, O. S., (137, 140) 870
McCoy, G. W., 690, 1349
McCoy, J., (130) 870, (36) 1551
McCracken, A. J., (49) 2090
McCrae, J., (56) 76, (142) 442, (78) 1375, 1449
McCrae, T., *983
McCreary, J. C., (89) 352
McCuaig, J. E., 1179
McCulloch, H. D., (9) 1735
McCullough, F. E., (45) 1108
McCune, W. S., (3) 1377
McCurdy, S. L., 526
McDonald, 1454
McDonald, E., (81) 1110, (28) 1640
McDonald, H. G., (78) 710
McDonald, J. A., (121) 78
McDonald, W., 342
McDonnold, P. E., (121) 950
McDowell, J. J., (22) 707
McElroy, J. B., *371
McEvoy, J. J., (108) 1641
McEwan, J. S., *757
McFarland, J., (54) 867, (108) 869
McGannon, M. C., (120) 793
McGavin, L., (20) 536, (20) 1190
McGavran, S. B., (99) 626
McGee, A. N., (99) 1733
McGhee, S. J., (95) 169
McGill, A. G., (121) 534
McGlannan, A., (86) 710
McGlinn, J. A., (15) 865, (97) 949, (5) 2233
McGregor, A. N., (22) 172, (20, 25) 952
McGriff, E. E., (20) 256
McGuire, S., (31) 531, (32) 707, 764, (133) 950, (29) 1278, (22) 1730
McHale, J., (27) 1462
McHatton, H., (132) 170
McHutchison, G. B., (30) 537
McIntire, C., 339
McIntosh, W. P., (30, 40) 349
McIntyre, G. W., (20) 2001
McKay, J. H., (100) 534
McKay, W. J. S., (33) 354
McKee, E. S., (77) 76, (98) 534, (45) 1185, (104, 120) 1644
McKee, H., (130) 78, (101) 1466
McKee, J. H., 1629
McKennan, T. M. T., (10) 438
McKenzie, J., (24) 795
McKernon, J. F., (83) 1552
McKinney, R., (161) 1189, 1989, (96) 2092
McKinnon, A. S., 68
McKone, J. J., (117) 78
McLaughlin, W. B., (18) 438
McLean, F. C., (22) 1033
McMahon, J. P., (53) 624
McMillan, J. A., 785
McMorrow, F., (12) 944
McMurtry, L. S., (83) 792
McNair, R. T., (22) 531
McNeil, J. H., (69) 1375
McNerthney, J. B., *1153
McPherson, D. M., 1526
McPherson, R., *734
McRae, F. W., 2081
McReynolds, R. P., (125) 170
McSwain, I. A., (129) 1644
McVicar, C. S., (149) 1906
McWalter, J. C., (15) 1111
McWilliams, C. A., (31) 439, (27) 1640
McWilliams, J., (110) 1644
Meakins, J. C., 248, (38) 2002
Meanor, W. C., (79) 625
Means, J. H., (63) 350
Mears, J. E., (1, 9) 72, (98) 259, (114) 260
Medin, O., (97) 1196
Meek, W. O., (5) 626
Mefford, W. T., (2) 1729
Mehrdorf, R., (121) 631
Meidner, S., (134) 1474
Meier, A., (59) 2192
Meier, G., (78) 875
Meier, G. C., (150) 1906
Meierhof, E. L., (117) 919
Meige, H., (42) 537, (35) 796
Meigs, E. B., (38) 1278
Meinertz, J., (102) 266, (114) 359
Meinhardt, H., (118) 359
Meisenbach, R. O., (33) 1551
Meissen, E., 1360
Meissl, T., (115) 266
Mekler, L., (88) 799
Melchier, E., (101) 1740
Melchior, E., (85) 955, (85) 1115
Melchiorri, G., (127) 450
Meldon, G. P., (14) 2006
Melick, W. A., (20) 1107
Meloy, C. R., (141) 1111, (25) 2089
Meltzer, (61) 2096
Meltzer, S. J., (49) 708, (72) 1186, (34) 1462
Melvin, J. T., (64) 948
Melzi, U., (126) 450
Menage, H. E., (72) 441
Menard, P., (41) 713
Mendel, F., (95) 540
Mendel, K., (51) 1192
Mendelsson, O., (81) 1825
Mendenhall, J. N., (105) 1904
Mendes, 147
Mendes, G., (137) 1734
Menestrina, J. F., (87) 948, (110) 1110, (78) 1552
Menetrier, P., (41) 797
Menyhert, W., (93) 1288
Mercadé, S., (37) 953
Mercer, W. F., (19) 707
Mériel, E., (57) 1469
Meriwether, C. P., 249, (92) 710
Meroni, A., (89) 540
Merrill C. H., *1849
Merrill, J. D., (96) 77
Merrill, T. C., (170) 1189
Merzbach, G., (18) 790
Metcalf, W. F., 784, (64) 1465
Metju, S., 1254
Metrovitch, S., (67) 258
Mettler, L. H., 859
Metzenbaum, M., (112) 1377
Metzger, J. A., (86) 169
Meunier, L., (44) 1555
Meyer, 1269
Meyer, E., (91) 176, (123) 1042, (75) 1470
Meyer, F. G. A., (90) 2098
Meyer, G., (71) 356
Meyer, H., (65) 174, (95) 2092
Meyer, J. S., (148) 1188
Meyer, K., (46) 953, (61) 1380
Meyer, M. K., (73) 1186
Meyer, O., (125) 2197
Meyer, P., (49) 630
Meyer, R., (108) 266
Meyer, S., (79) 447
Meyer W., (38) 74, (9) 789, 1540, 1628, (1) 2000
Meyerson, H., (69) 2193
Michael, M., (62) 791, (147) 1282
Michelsson, F., (57) 954
Michinard, P., (89) 1819
Mick, W. H., 67
Micon M. T., (79) 2004
Middleton, G. S., (6) 626
Midgley, R. J., 67
Miesowicz, E., (102) 541
Milhit, J., (65) 1039
Milian, G., (25) 1736
Mill, G. R., (21) 2190
Millain, G., (19) 351
Millard, C. K., (14) 795
Miller, C. C., (28) 1730
Miller, C. M., (19) 531
Miller, D. J., (61) 257
Miller, F. W., (85) 1466
Miller, J., (47) 2007
Miller, J. A., (7) 1031, 1260, 1726
Miller, J. L., (76) 1036, *1745
Miller, G. B., (47) 947
Miller, H. A., (23) 439, (18) 622
Miller, H. B., (32) 256
Miller, J. W., (87) 447, (26) 623
Miller, R. T., (140) 1111
Miller, U. G., (89) 533
Miller, W. McN., (92) 1904
Miller, W. H., 250
Milligan, J., (79) 1186
Mills, C. K., 69, *879, (91) 949, (34) 1108, (62) 1109
Mills, G. P., 615
Mills, W., (125) 870
Mills, W. S., (3) 1371
Milne, R., (9) 1906
Milner, R., (80) 632
Milroy, T. H., (24) 1038
Milroy, W. F., (111) 626
Milton, J. P. (32) 1378
Minor, C. L., 1896
Minor, J. L., (4) 2185
Mints, W., (79) 1739
Mircoli, S., (123) 178
Mitchell, A. B., (26) 172
Mitchell, C. B., (26) 167
Mitchell, E. W., (71) 76
Mitchell, H. E., (84) 1819
Mitchell, H. W., (138) 170, (90) 1376
Mitchell, J. F., *1582
Mitchell, O. W. H., (11) 2000
Mitchell, S. W., 164
Mitchell, W. F., (94) 1904
Mitulescu, J., (170) 87
Mix, C. L., (65) 709
Moak, H., (143) 1906
Moeller, A., (90) 265, (85) 447
Moeller, H. N., (18) 255
Moennighoff, F. J., (79) 1904
Moffat, H. A., (9) 1189
Moffitt, G. R., *496
Moffitt, H. C., (1) 1460
Möhlmann, K., (133) 359
Mohr, H., (119) 1042, (127) 2197
Mohr, L., (119) 1042
Mol, C. M., (55) 2096
Mole, H. F., (50) 1468
Moll, L., (80) 715, (55) 873, (56) 874
Molle, (40) 1191
Moller, O., (157) 1041
Möller, S., (87) 1288, (76) 1381, (80) 2009
Molon, C., (112) 1383
Momburg, (113) 177, (121) 1742
Moncure, W., (69) 2003
Monks, G. H., (107) 260, (38) 1730
Monosmith, O. B., (111) 793
Monprofit, A., (17) 1551
Monro, T. K., (43) 445
Monsarrat, K. W., (23) 261
Montandon, G., (37) 1190
Monteli, (47) 537
Montgomery, D. W., (65) 1185
Montgomery, E. E., (33) 623, *912
Montgomery, F. H., (17) 944
Montgomery, R. E., (25, 26, 27) 537
Montgomery, H. T., (45) 946
Montgomery, L. H., 1526, (75) 2091
Monti, R., (74) 955, (111) 1741
Montizambert, F., (77, 83) 869
Monzardo, G., (133) 717
Moody, G. H., (97) 1904
Mook, W. H., (119) 1188
Moon, R. O., (16) 1735
Moore, B., (40) 1038
Moore, C. F., (127) 1037
Moore, F. C., (23) 1190, (17) 1735
Moore, G. A., (150) 171
Moore, H. M., (22) 1901
Moore, J., (33) 2006
Moore, J. T., (96) 19004
Moore, J. W., 1895
Moore, N., (17) 1190
Moore, N. M., *1076
Moore, S. G., (12) 1111
Moore, T. W., (135) 78
Moore, W. O., (135) 442
Moorehead, S. W., (27) 866
Moorhead, T. G., (24) 172
Moraczewski, W. v., (67) 1114
Moran, J. F., (59) 532, (51) 947
Morano, G., (132) 1562
Moraweck, E., (180) 171, *1696
Morawitz, P., (99) 83, (108) 1289, (85) 1559
Moren, J. J., 1453, (90) 2189
Morgan, J. D., (39) 2002
Morgan, W. A., (48) 2002
Morgenroth, (91) 540
Morinelli, V., 988
Morison, A., (2) 442
Morison, A. E., (5) 171
Morison, B. G., (6) 78
Morison, R., (27) 1907
Moritz, F., (109) 449, (92) 876
Morley, W. H., 787
Moro, E., (144) 86, (12) 166, (49) 873, (73) 955, (97) 1650
Moro, G., (132) 1743
Morris, A., (41) 2191
Morris, H., (4) 951, (2) 1553, (8) 2005
Morris, J. N., (43) 81
Morris, L. C., 1807
Morris, R. T., (66) 441, *644, (32) 790, (105) 1037, (75) 1280, 1459
Morrison, A. C., (68) 1552, (125) 1553
Morrow, P. A., (85) 710
Morsaline, P., 59
Morse, A. B., (51) 1279
Morse, J. L., 156, (3) 347, (41) 867, (86) 869
Morse, M. E., *1075
Morton, C. A., (2) 1038, (48) 1468
Morton, C. J., (7) 710
Morton, E. R., (13) 1283
Morton, J. P., (122) 1377
Mosbacher, E., (111) 1560
Mosenthal, H. O., (36) 2002
Mosher, H. P., 1361
Mosher, J. M., 1270, (124) 1734
Moss, W. L., (24) 945, *1971
Mosse, M., (68) 539
Most, A., (86) 82
Moszkowicz, L., (77) 1040
Mould, G. E., (20) 1377
Moullin, C. M., (17) 261, (12) 535, (2) 1111
Moulton, H., *1207
Moulton, W. B., (75) 169, 336
Mouriquand, G., (52) 538
Moy, C., (102) 1281
Moynihan, B. G. A., (27) 167, (101) 260, (22) 261, (12) 796, (27) 2001, (1) 2234
Much, H., (90) 715, (86) 1739, (49) 2095
Mucha, V., (84) 1649
Muck, O., (152) 86
Mueller, A., (76) 261
Muetze, H., (119) 352, (100) 1466
Muggia, A., (116) 1383
Mühlens, P., (84) 1288
Mühsam, H., (58) 1193
Mühsam, R., (93) 265, (81) 356, (91) 2194
Mullen, J., (99) 1904
Müller, A., (149) 86, (94) 1041, (80) 1558
Müller, C., (112) 1560
Müller, E., (94) 83, (96) 1876, (66) 1911, (70) 2193
v. Müller, F., 513, (63) 1193, (23) 1550
Müller, G. J., (71) 1193
Muller, G. P., (144) 1734
Müller, L., (98) 83
Müller, O., (109) 1289
Müller, W., (73) 447
Mullins, C. L., 67
Mulzer, P., (82) 539
Mumford, J. G., (99) 259, (42) 1551
Mummery, N. H., (14) 354
Mummery, P. L., (130) 442, (5) 1377
Muncaster, S. B., (141) 1037
Münchmeyer, O., (82) 1287
Munger, E. E., (112) 442
Munk, F., (68) 2193
Munn, L. H., (112) 793
Munro, J. C., (1) 864, 918, (125) 1037, (79) 1375
Munro, J. M. H., (31) 629
Münter, (80) 875
Münzer, A., (70) 539
Murdoch, F. H., (8) 1183
Muren, G. M., (12) 706
Murphy, A. I., (41) 256
Murphy, F. E., (56) 1642
Murphy, J., (42) 1555
Murphy, J. B., (124) 352, 431
Murphy, J. W., (24) 439, (19) 622
Murphy, W. E., (110) 793
Murphy, W. G., *745
Murray, A., (66) 1642
Murray, T. A., (152) 1906
Murray, F. G., (116) 442
Murray, H. L., (7) 870
Murray, M. A., (31) 256
Murray, W. R., (65) 168, (117) 442
Murrell, W., (18) 628
Muschlitz, C. H., 528
Muse, E. H., *121
Musgrave, W. E., (65) 532
Muskat, G., (75) 539, (76) 631, (103) 1289
Musser, J. H., 774
Muthu, C., (34) 629
Myer, J. S., (14) 622, (69) 1035
Myers, A. W., (135) 1188, (148) 1282
Myers, D. A., (95) 1466
Myers, T. H., (47) 2002
Myles, R. C., (61) 624
Myles, R. E., (147) 353

N

Nacke, (129) 267, (125) 717, (145) 1043
Naegeli-Akerblom, H., (115) 634, (95) 1740
Nagel, C. S. G., (67) 1818
Nagel, M., (151) 86, (81) 715
Nager, F. R., (74) 1824
Naish, A. E., (12) 1111
Nambu, K., (88) 2098
Nance, W. O., (115) 1466, (75) 1818
Napp, H., (111) 84
Narath, A., (65) 1910
Nascher, J. L., (16) 796
Nast-Kolb, A., (125) 1117, (116) 1289
Nathan, P. W., 526
Nattan-Larrier, L., (64) 81, (16) 1906
Naumann, G., (114) 541
Nauwerck, C., (62) 264
Nave, H. A., *1869
v. Navratil, D., (72) 2097
Neal, J. R., Jr., 1086
Neale, H. M., 1629
Nedden, z., (38) 916
Neef, F. E., (55) 1279, (39) 1551, (110) 1819
Neff, J. L., 1533
Neil, J., (7) 1820
Neil, J. H., (24) 1467
Neild, N., (33) 629
Neilson, C. H., (62) 350
Neisser, A., (64) 1193, (16) 1644
Neiswanger, C. S., (119) 1734
Nelken, A., (90) 1281
Nelli, L., (152) 1044
Nenadovics, L., (94) 447
Nerking, J., (122) 1117
Nesbitt, C. T., (7) 1461
Nesfield, V. B., (38) 2191
Ness, R. B., (37) 1821
Nesselrode, C. C., (128) 1553
Netter, (41) 712
Netter, A., (49) 355, (55) 1738
Neu, M., (82) 447, (53) 630, (119) 1742
Neubauer, E., (174) 87, (113) 266

Neumann, A, (105) 341
Neumann H (14) 1780
Neumann M (99) 1288
Neupert, F, (43) 2005
Newbolt G P, (5) 1282
Newcomb J L (45) 81, (151) 338
Newcomet, W S, (112) 1077
Newell I S, (35) 1902
Newell W A (39) 2189
Newman D, (18) 1734
Newmayer, S W, (76) 625, (14) 2000
Newton, M, (24) 1772
Newton W K, 629 (62) 888
Nice C M, (57) 1034
Nichols H T, (81) 169, (72) 1187 (55) 1903
Nichols T B, (119) 170
Nicholson C M, (4) 1033 (65) 1903
Nicholson, H G, (129) 534
Nichol on W G (91) 1552
Nicholson, W P, (54) 532, (98) 89
Nicola, C C, 1777
Nicola D, (121) 878
Nicolaier, A, (67) 446
Nicolas T, (44) 1777
Nicolaysen, J, (120) 878
Nicolaysen, L, (138) 1743
Nicoletti V, (141) 278
Nicoll, A (10) 2000
Niemack J (73) 1775
Nierenstein, M, (80) 529 (40, 41 43) 1038
Nieto M B (52) 1285
Nikitin M P, (88) 1288
Niles, G M, 1904
Niles H D, (57) 624 (146) 870, (121) 1644
Nippert L A, (62) 168
Nitch C A R, (4) 260
Nixon, J A, (49) 1468
Nobecourt, P, 1625
Noble, C P, (115) 1282
Noeggerath C T, (55) 600
Noel, L G, *20
Nogara G, (129) 1?1
Noguchi 1894
Noire, H, (21) 1890
v Noorden, (89) 2010
Norbury, F P, (71) 169
Norero, M, (53) 1778
Norris, C C (26) 167, (44, 45) 571
Norris, G W, (51) 708
Norris, H W 1802
Norris R C, 70, (42) 625, (39) 1279
Northrup W P, 157, (2) 2009
Nothen, H, (102) 938
Nourse, R L, 1811
Noury, Z, (107) 1041
Novak, J, (76) 1040
Nove Josserand, L, (33) 179, (48) 538
Novy, F G, *1423
Nowak J, (36) 712, (73) 1558
Nowicki W, (106) 266
Noyes, A A, (102) 949
Noyes E R, (35) 2187
Nuckols, M F, (29) 707
Nuckols, O P, (121) 1111
Nutt, J J, 343 (119) 626, (115) 1552
Nuttall, G H F (47, 48, 49) 1039
Nutter, J A, (103) 1644

O

Oakman C S, 785
Oates T K * (76) 2004
Obermayer, F, (122) 350
Obermüller, H, (80) 264
Oberndorf, C P, (9) 1031
Oberndörffer E, (54) 264
Obrastzow, W, (93) 83
Ochsner A J, 1724, (76) 1818 (22) 2234
Ochsner, E H, (67) 709, (75) 1110, 1625
O Connor B J, (92) 352
O Connor, P T, (6) 789
O Day, J C 422, (29) 622, (84) 625
O Donovan C (87) 710
Oechsner, J F, (180) 951
Oelsner (108) 2194
Oeri, R, (118) 877
Oertel, H, (26) 73
Oerum, H P T, (68) 446, (74) 631, (91) 1525
Oeynhausen, H v (57) 1113
Offergeld H, (63) 1113 (122) 2195
Ogata, M, (92) 358, (59) 538
Ogden B H, (133) 793
Ogden, C R, (75) 2004
Ogden, E R, (63) 76, (151) 171
Ogilvy, C, 349 *406, (114) 1552
Ogsell J, (11) 793
Ohlemann, M, (90) 1381
Ohlmacher, A P, *571, (106 107) 869
Ohly, J H (85) 1036
Oka, R, (146) 1118
Okinczyc, J, (57) 2007
Oldham M C (94) 1643
Oldham R S (29) 537
Oliver, A B, ( ) 440
Oliver, C A 1174
Oliver, G, (?) 1284 (42) 1779
Oliver, J, (5) 1928 (2) 1276
Oliver, T, (17, 22) 1028
Olmstead W. F, (151) 1906
Olmsted, I, (84) 869
Olmsted I C, (153) 951
Olsho, S L, (27) 1816
Olson G A, (52) 1771
O Malley A, (?) 1552
O Malley, J, (49) 1817
O Meara, E J (?) 2191
O Meara, T J, (16) 1159
O'Neill, M J, (122) 78
Ophüls W, (?) 869
Opie E L, (87) 77, (91) 1184, 1418
Opitz, I, (70) 788
Oppenheim, H, (62) 630
Oppenheim M, (105) 1887
Oppenheimer, K, (110) 1042
Oppenheimer, S, (85) 1552
Orbison T J, (35) 1108, (141) 1282 (90) 2004
Ordbaugh, G F, *1073
Oreste T (117) 1914
Ormerod, J A, (36) 1646 (1) 1820
Ormond, A W (73) 942
Ormsby H B, (87) 869
Ormsby, O S, (17) 944
O'Roark, G B, (95) 352
Orr, H W, 67, (75) 1465
Orr, J, (7) 870
Ortali O, (150) 1044
Orth O, (90) 1912
Ortner, N (148) 1475 (115) 2196
Orton G H, (19) 1283
Osborne, C A, 1797
Osborne, O T, (70) 1280 *1477
O borne, T B, (53) 1108, (33, 34) 1278 (45) 1731
Osgood, G, 422 (1) 1031
O good, R B, (111) 1552
O ler, W, (9) 231, (11) 1466, (13) 1725
O terhaus K, (115) 171, (16) 348, (17) 1815
O theimer, M, (111) 1282
O trander, H 698 (74) 1110
O trom L, *1232
Otis I (53) 1466
Otto, R (84) 2008
Ouston T G, (21) 1467
Outerbridge, G W, (28) 866
Outten, W B, (117) 78, (23) 167, (22) 707
Overlach M, (59) 797
Overland, B, (2) 870
Overton J, (66) 2003
Oviatt C W, 524
Owen F (14) 871
Owschinnikow, P, (115) 359

P

Paccanaro, A, (128) 717
Pacchioni, D, (77) 1912
Pachnio, F, (66) 1114
Packard, G B, 528
Packard, H, (9) 530
Paganelli, T R, (105) 169
Pagano, G, (150) 1475
Page, I R, (34) 1551
Page, La F, *1072
Paget, S, (5) 1906
Paglieri, L, (121) 178
Paine, J C, 1526
Painter, C F, (7) 72, (101) 77, 343, 344, (2) 347, (4) 437, (3) 789, 1364
Palier, E, (169) 87, (51) 264
Paltauf, R, (106) 2011
Pampoukis (52) 445
Pancoast, H K, (95) 1036
Pancrazio, F, (114) 1651
Pandolfini, R, (118) 1384
Panegrossi G, (127) 178
Panichi, L, (123) 1290, (69) 1470, (60) 1823
Pankow, (62) 538, (90) 956, (82) 1739
Pannwitz, G, 1175, 1176, 1269, 1896
Panton, A C, (68) 1109
Papin, E, (65) 81, (58) 2007
Pappenheim, A, (61) 630, (68) 954
Paquin, P, (188) 951
Paramore R H, (3) 260, (36) 263, (39) 1646
Pari, G A, (136) 267, (127) 1561
Parisier, C, (66) 1193
Parisot J, (29) 796
Park, R, (43) 256
Park, W, (77) 1818
Park, W H, *981
Parke C R, (54) 1903
Parke, W E, (112) 534
Parker, C A, (28) 1467, (35) 1640
Parker, E M, (51) 168
Parker, L A, (76) 1466
Parker, R, (12) 711
Parker, T A, (148) 171
Parkinson J P, (31) 1907
Parlavecchio G, (57) 712 (144) 1118 (9) 1536
Parr, R J, (29) 971
Parson J C, (36) 349, *1697
Parsons J G, *1697
Parsons, W, (93) 77
Partlow, W D, (176) 1111
Partridge, F C, (71) 624
Partridge, H G, (79) 2091
Paschall, F, (167) 1159
Pashayan, N A, (95) 626
Paskiewicz, L, (105) 266
Passini, R (96) 1195 (112) 2099
Pasteur, W, (1) 2005
Patek, A J, 703
Patella, V, (62) 1823
Paterson, D R, (9) 627
Paterson, M S, 1896
Paterson P, (10) 951
Paton, D M, (17) 172 (70) 1038
Paton, D N, (19) 711
Patrick, D, (60) 2091
Patrick, H T, (77) 169
Patrick, J K, (37) 1907
Patten C J, (21) 1111
Patterson, A B (125) 1111
Patterson, F, (122) 1820
Patterson F D, (48) 1031 2182
Patterson, H S, (620), (29) 1816
Patterson, J A, (101) 1552
Patterson, O M, (85) 259
Pattison H A, (72) 709
Patton, G F, (89) 1281
Patton, W B, (108) 793
Paucke M (91) 1115
Paul C M, (17) 790
Paul, I T (13) 79
Pauli W O (82) 2004
Paviot J (48) 538
Pavy, F W, (1) 2189, (10) 2235
Pawlowsky, A D, (110) 84
Payne R L Jr, *1721
Payr, E (69) 1195 (38) 2094
Peabody F W, *978
Pearls R P, 524
Peal, I H (96) 1733
Peak, O I (83) 1904
Pearce R M (22) 944 *1056, (25) 1184 (45) 1903 (24) 2089
Pearl R, (52) 1108
Pearse, H J (75) 792
Pearse, F, (5) 2005
Pearson, M M, (67) 1035
Pearson, R A 144
Peck, A H, *963
Peck, J M, 1353, (84 86) 2189
Peckham, F F (100) 77, 942
Pedersen, A C, (96) 793, 1600
Pedersen J 160 407
Pedrazzini F, (150) 360, (121) 2012
Pelham, H, (126) 267
Peiser A (140) 359 (117) 717, (67, 70) 2193
Peiser, J, (124) 85
Peixoto, A, (27) 712
Pellier, J, (41) 873
Peltesohn, S, (61) 713 (80) 1040
Pelton, H H, (14) 166
Pemberton R, (63) 1109, (38) 1462, (43) 2002
Pembrey, M S, (17) 1111
Pendleton, E, (14) 789
Pennington, J R, (94) 1110, 1651
Pennisi, A, (125) 1914
Penny A F, (17) 2006
Penover F C (87) 1186
Pepin R, (49) 174, (38) 797, (55) 1286
Peple, W L, 1808
Pepper, O H P, (31) 256
Percy, J I, 2074
Perier, E, (36) 629
Perkins, C E, (139) 78
Perkins, J, (121) 78
Perrilliat, L, (91) 1819
Perrin, F, (47) 629
Perrin, M (48) 1555
Perry, A W, (40) 531
Perry, H G, (81) 1552
Perry, J C, (1) 944
Pers A, (79) 715 (110) 800
Pershing, H T, (119) 1644
Perthes (83) 1040
Peterkin G S *1073 (94) 1281
Peters, A, (157) 86, (63) 1194
Peters, L S, (18) 944 (9) 1461
Peterson, F W, (7) 1106
Peterson, F, 1625 1893
Peterson, R, (42) 75
Peterson, T, (128) 1828
Petges, G, (27) 172, (40) 873
Petit, A, (65) 1039
Petit, G, (47) 1285
Petit, R, 229
Petren, A, (162) 1476
Petri, A, (59) 1910
Petrivalsky, (53) 375
Petruschky, F, 1260
Petry F, (108) 1650
Pettit J W, (50) 76, (77) 441 (75) 533
Pettu C S 250 (77) 1280
Petty, G F (138) 870
Peyser A, (74) 799
Peyser, M W, (??) 1552, 1624
Peyton D C (41) 540
Pfahl (7?) 715
Pfahler G ??? (?) 1698 *1761
Pfahler, ? 947
Pfannenstiel, F, 70
Pfannenstiel, J, *732, (60) 1647, (25) 2001, (101) 2011
Pfannenstill, S A, (122) 1652
Pfaundler, M, (144) 86
Pfingst, A O, (88) 793
Pfister, R, (137) 1043
Pflanz, A, (137) 85
Phalen, J M, (32) 1185, (102) 1733
Phelps, E B, 942
Phelps J D, (77) 1466
Philbrick, I C, (15) 1278
Philip, R W, 1269, (15) 1639, (7) 1735
Philipp, P W, (97) 1472
Philler, H, (137) 1188
Phillips, C R, (116) 1037
Phillips, J, (54) 76, (8) 1461, (4) 1734
Phillips, L P, (4) 2005
Phillips, W C, (5) 1461
Piazza, A, (128) 178
Pick, E P, (107) 2011
Pick, L, (106) 1041, (63) 1380
Pick, W, (111) 266
Pickering, C R, 511
Pierce, B, (19) 1377
Piering, (119) 177
Piersol, G M, (30) 439
Pike, F H, (64) 350, (155) 870
Pike, N H, (42) 2007
Pilcher, J T, (145) 1906
Pilcher, L S, (164) 171
Pilsbury, L B (90) 1733
Pineles, F, (123) 359
Pinkus F, (106) 1041
Pinkus A, (77) 715
Piorkowski M, (54) 2096
Piquand G (59) 81
Pirovano, A, 675
v Pirquet C (118) 266, (128) 369, (61) 798, 1361, 1626
Pisarski, T, (102) 83
Pischel, K, *1152
Pisek G R, *1214, (40) 1816, (22) 2186
Pitcher, H F (121) 1820, 1890
Pitner T J, (73) 1036
Pitt, G N, (5) 1644
Pitt, W O, (9) 1644
Pittman, A I, (48) 440
Pitts B, (76) 2091
Pizzini, B, 1802
Placak, J, (89) 869
Place, R W, (5) 789
Plate, E, (162) 86
Plauchu, (57) 446
Plaut, F, 13, (72) 356
Playfair, H (32) 952
Plehn, A, (18) 1906
Plessi, A, (95) 956
Plummer, H S, *549
Pochhammer K, (105) 1041
Pochin F L, (6) 1189
v Poel, D, 161
Pogue, G R, (3) 944, (117) 1644
Poisot, M, (69) 82
Polak J O, (6) 438, (69) 624, (39) 707, (33) 1816
Polano O, (98) 176
Polk, C G, (16) 622
Pollak, E, (112) 717
Pollak, L, (104) 541
Pollak R, (100) 541
Polland, R, (109) 717
Pollard, B, (15) 711
Pollard, C W, (116) 1111
Pollatschek, R, (91) 1740
Pollock, W B I, (28) 1283
Pomeroy, N, 339
Poncet, A, 1897
Pope, C, (67) 76, 1454
Pope F M (16) 2190
Popoff, P M, (100) 1740
Popper, H, (122) 359, (113) 717, (81) 1558
Porcher, W P, (55) 1465
Porcile, V, (106) 800
Porges, O, (174) 87, (113) 266
Port, F, (77) 1739
Port, K, (66) 264
Porter, M F, *719
Porter, W G, (47) 81
Porter, W H, (3) 165, (5) 255
Portner, E, (75) 1911
Posey, W C, (178) 171, (99) 442, (109) 534, 1356, *1389, (70) 1642, (155) 1731
v Posner (122) 636
Posner, C, (70) 875 (51) 2096
Posner, O, (62) 1280
Pospischill, D, (90) 799
Posselt, R, (132) 1117
Posselt, A, (57) 876, (69) 955
Postelle, J M, (128) 793
Pothier O L, (56) 867
Potocki (29) 712
Pottenger F M (116) 78 (62) 1818 (19) 1891 (1) 2232
Potter, D C, 1475
Potter, T F, (147) 1188
Potts B H (77) 625
Potts W A, (24) 1736 (??) 2
Poulton B (??) ???
Powell, P D, (1) 1774

Powell, W. W., (23) 354, (17) 1467
Power, D'A., (22) 712
Power, J. E., *282
Powers, W. H., (15) 530
Poynter, C. W. M., (116) 1111
Poynton, F. J., (30) 262, (11) 951, (4) 1906
Pozzilli, P., (98) 936, (128) 1561
Prandi, T., (95) 1195
Prati, U., (131) 267
Pratt, E. S., (133) 260
Pratt, G. N., (78) 1818
Pratt, J., (108) 1289
Pratt, J. H., (6) 1644
Pratt, J. P., (144) 1111
Preiser, G., (110) 633, (143) 1043
Presno, J. A., 1802
Preysing, H., (69) 1648
Pribram, E., (85) 799
Price, C. C., (73) 1552
Price, G. E., (97) 1036
Price, J., 218, 249, (70) 1250
Price, J. W., 1254, (30) 2089
Price, M. L., 942
Price-Brown, J., (41) 1646
Prichard, G. E., (13) 1111
Prigl, H., (110) 177
Prince, E. M., (80) 1552
Prince, M., (2) 1549
Pringle, J. A., (31) 1190
Pringle, J. H., (34) 1730
Probst, C. O., 942
Proescher, F. R., (8) 255, (10) 438, (19) 914
Proust, R., (62) 81
v. Prowazek, S., (79) 799, (119) 2197
Prowazek, S., (79) 799
Prym, P., (102) 1013
Przewalski, B., (60) 630
Puckner, W. A., *52, 140, 330, *773, *857, 931, *1337, 1525, 1713
Puddicombe, T. P., (5) 870
Punnett, R. C., 147
Purdum, H. D., *34
Purdy, G., (99) 352
Purdy, J. J., (92) 1643
Purdy, J. S., (32) 1555
Pusey, W. A., (75) 356
Putnam, H. C., 340
Pyle, W. L., *1010, *1039
Pye-Smith, R. J., (1) 789, (3) 793, (6) 794

Q

Quackenboss, A., (116, 117) 1905
Quackenbos, J. D., (90) 1466
Quadri, G., (119) 1651
Quadrio, R. G., (109) 800
Quenstedt, F., (117) 2196
Quénu, E., (45, 47) 263
Quercioli, V., (143) 268
Queyrat, L., (61) 446
Quigley, J. K., (79) 1110
Quinby, J. G., 315
Quinby, W. C., (4) 705

R

Rabagliata, A. C. F., (20) 354
Rabinowitsch, M., (148) 86
Rabinowitsch, S. S., (65) 1192
Rabl, H., (101) 2011
Radasch, H. E., (57) 708
Radcliffe, J. A. D., (3) 626
Raecke, (105) 84
Rahner, R., (106) 1826
Raiford, R. L., (27) 531
Raitt, H., (25) 796
Rambo, J. W., (154) 1037
Ramey, R. L., (98) 1901
Ramsey, A. M., (19) 2190
Ranck, S. H., (116) 78
Randall, G. M., (16) 944
Randall, H. E., 787
Randi, A., (149) 360
Randle, E. H., (161) 1189
Ranke, K. E., (96) 176
Rankin, G., (12, 21) 261, (10) 1283
Ransohoff, J., *887, (41) 1033, (35) 1730
Ransom, J. B., 1726, 2216
Ranzi, E., (57) 1556, (110) 2011
Raubitschek, H., (117) 266, (90)
Ream, F. K., *907
Reaney, M. F., (40) 1737
Rebaudi, S., (123) 1742
Reber, W., (120) 352, (114) 1037, 1357
Reclus, P., (36) 537
Red, S. C., (95) 1904
Reddy, H. L., (61) 2091
Reder, B., (52) 623
Redlich, A., (111) 359
Reed, C. A. L., (20) 1462, 1812, *1856
Reed, C. B., (34) 167, (71) 441
Reed, G. P., (122) 950
Reed, H., (127) 793
Reed, J. V., (56) 359, (113) 626, (102) 1819
Reed, R. J., (103) 169
Reed, W. W., (29) 1033
Rees, C. M., 1174
Reese, F. D., (7) 1815
Reeve-Ramsay, W., (97) 1116
Reh, (121) 84
Rehberg, T., (85) 2009
Rehfisch, E., (71) 529
Rehm, O., (72) 955
Reich, A., (117) 634, (71) 1114, (66) 1911
Reichel, H., (87) 793
Reicher, K., (57) 797, (67) 875, (70) 1823
Reid, D. J., 68.
Reid, H. P., (133) 1282
Reid, J. I., (179) 951
Reik, H. O., (64) 1035
Reilly, F. H., (49) 257
Reilly, J. P., (133) 1553
Reilly, T. F., (39) 349, (24) *2186, *2214
Reinecke, K., (78) 1170
Reines, S., (109) 1116
Reis, W., (101) 541
Reissig, C., (108) 359
Reissmann, C., (29) 872, (41) 1112
Remington, J. P., (77) 1280, *1832
Remlinger, P., (55) 1380
Rendleman, W. H., *316
Renner, (46) 797
Renner, L., (92) 799
Renton, J. M., (5) 1189
v. Renvers, (96) 2194
Renz, C., (58) 168
Repp, W. A., (76) 1904
Rethi, L., (120) 266
v. Reuss, A., (104) 877, (88) 1194
Reuterskiöld, A., (115) 541, (120) 800
Revell, A. H., (65) 76
Rewidzoff, P., (72) 1738
Reyburn, R., (123) 170
Reycraft, J. J., 784
Reynier, P., (42) 1821
Reynolds, E., 70, (32) 167, (26) 1033
Reynolds, M. H., (55) 1375
Reynolds, O. H. (59) 1185, (154) 1188
Reynolds, W. S., (6) 1183
Rhamy, B. W., (57) 350
Rhein, J. H. W., *463, (123) 1553, *1933
Rhein, M. L., *275
Rhoads, J. N., (102) 442, (142) 1037
Rhodenburg, G. L., *1326
Rhodes, J. E., (94) 77, (125) 534, (3) 621, (109) 1552
Rhodes, J. M., (16) 354
Ribbert, H., (99) 1559
Rice, (122) 793
Rice, A. G., (5) 347
Rice, A. H., (86) 793, (125) 1377
Rice, C. C., (119) 353, (6) 706
Rice, J. H., (77) 918
Rice, R. A., (113) 1377
Rich, E. A., 1989
Rich, H. M., (66) 792
Richardière, H., (54) 445
Richards, G. L., (148) 353
Richards, H. M., (38) 1379
Richards, M. R., (52) 1817
Richards, O., (6) 710, (7) 1038
Richards, W. M., (23) 73
Richards, W. T., (50) 1374
Richardson, C. H., 433, (3) 1105
Richardson, G. H., (125) 950
Richardson, J. B., (95) 1643
Richardson, J. B., Jr., (81) 351
Richardson, M. H., 620, (62) 868, (59) 1035, (3) 1815, (2) 2088, (18) 2234
Riesman, D., (114) 869, 1639
Riesmeyer, L. T., (69) 169
Rieux, (57) 1286
Riggs, A. F., (8) 166
Riggs, C. T., (76) 918
Rihl, J., (59) 2096
Rimann, H., (90) 1471
Rimpau, W., (58) 264, (59) 954
Rinehart, J. S., 250, (72) 1280
Ringer, P. H., (11) 1371
Ringnell, C. J., (64) 168
Rinne, (78) 529
Risel, H., (57) 874
Risley, S. D., (135) 1037, (128) 1188, (112) 1905
Ristine, C. E., (70) 2091
Ritchie, H. P., (6) 870
Ritchie, J., (6) 870
Ritter, (75) 715
Ritter, C., (170) 87, (118) 717, (86) 876, (57) 1909
Ritter, E., (119) 359
Ritter, E. N., (117) 1037
Ritter, H. B., 1353, (87) 2189
Ritter, J., *29
Ritter, P., (87) 2008
Rives, A., (31) 173
Rob, J. W., (11) 794
*Robb, H., 71, (116) 1377, *1767, (31) 1816*
Robbinovitz, S., (18) 1815
Robbins, F. W., 786
Robe, R. C., (59) 624
Roberts, C. W., 1780
Roberts, D., (13) 1549
Roberts, H. H., 1514, (95) 2189
Roberts, J., 939
Roberts, J. B., (105) 260, (128) 442, *1126
Roberts, L., (23) 1820
Roberts, W. H. (68) 1185, (105) 1552
Robertson, A., (25) 712
Robertson, C. A., (148) 950
Robertson, D. W., (44) 946
Robertson, J. R., 1445, 1446
Robertson, J. W., (35) 531
Robertson, T. B., (42) 1731
Robertson, W. F., (4) 2092
Robin, A., 57, (50) 168
Robin, E. A., (95) 1819
Robins, C. R., (91) 1643, 1723
Robinson, A. A., *1510, (7) 2088
Robinson, B., (31) 866, (137) 1111, (19) 1278, (105) 1377, (15) 1549, (26) 2186, (11) 2233
Robinson, E. M., (135) 1111
Robinson, E. P., (19) 348
Robinson, G., (136) 1037
Robinson, G. C., (42) 167
Robinson, H., (19) 795
Robinson, H. B., (1) 1377
Robinson, L. E., (49) 1039
Robinson, S., *803, 1365
Roblee, W. W., (82) 710
Rocchini, G., (138) 718
Roch, (50) 538
Roch, M., (49) 1822
Rochon-Duvigneaud, A., (157) 1734
Rockwell, A. D., (10) 2185
Rodgers, N. H., (74) 948
Rodiet, A., (39) 953
Rodman, H. D., (103) 352
Rodman, W., 1363
Rodman, W. L., (104) 260, (136) 353, (73) 624
Roe, J. O., (133) 1906
Roemheld, L., (105) 716
Roger, (49) 2197
Roger, H., (34) 796
Rogers, A. W., (54) 624
Rogers, C. C., (81) 533
Rogers, L., (28) 349, (36) 1038, (14) 1820, (7) 1906, (29) 1907
Rogers, M. A., (84) 1466
Röhmer, W., (57) 2096
Roith, O., (64) 356, (99) 448
Rolando, S., (180) 87
Rolleston, H. D., (26) 1736
Rolleston, J. D., (34) 2006
Rollins, W., (8) 72, (4) 347
Rolls, J. A., 933
Rolly, F., (88) 1649, (61) 2036
Romanelli, G., (94) 956, (93) 1195
Romberg, (98) 1650
Romeo, P., (122) 2012
Rosenberger, F., (82) 1194
Rosenberger, R. C., 1172
Rosenblat, S., (100) 1650
Rosenblatt, M., (49) 445
Rosenfeld, G., (127) 85
Rosenfeld, W., (93) 716
Rosenheim, S., (87) 2004
Rosenow, E. C., *1571
Rosenthal, B., (58) 1113
Rosenthal, E., (82) 625
Rosenthal, M. I., (112) 1189
Rosenthal, T., (81) 1381
Rosewater, N., 1805
Rosinski, B., (118) 1117
Ross, E. H., (38) 1038
Ross, G. G., (36) 790, (107) 1282
Ross, J. F. W., (41) 1279
Ross, S. J., (19) 172
Rossi, 13
Rossi, A., (130) 267
Rossiter, P. S., (34) 2187
Rossolimo, G. J., (108) 177
v. Rosthorn, A., (126) 1561, (11
1930
Rostowzew, M. J., (65) 1380
Rotch, T. M., 246, *1197, (86) 137
(67) 1904
Roth, G. B., (44, 45), 1817, *2130
Rothschild, D., (62) 874
Rous, F. P., (158) 870, (86) 2004
Roussel, A. E., (147) 950
Routh, H. P., 249, (91) 710
Rouvier, J., (46) 537, (16) 2235
Röver, G., (132) 85
Rover, H. W., (65) 948, 1426
Rovsing, T., (48) 713, (159) 1475, (115) 1560
Rowlands, R. P., (24) 1190
Rowlette, R. J., (26) 2094
Rowley, A. M., 338, (49) 2188
Roy, D., *750, (125) 1820
Roy, J. N., (101) 1643
Roy, P. S., (49) 947
Royer, B. F., (109) 1282, (96) 1819
Royer, F., (92) 259, (36) 1816
Royster, H. A., (40) 1033
Rubens, (67) 1823
Rubin, J., (101) 1826
Rubner, M., (56) 1647
v. Ruck, S., (2) 72, 1898
Rucker, J. B., Jr., *288
Rudinger, C., (140) 1475
Rudinger, K., (175) 87
Rudis-Jicinsky, J., (100) 949, (
1377
Rudolf, R. D., (27) 1550
Rudolph, J., (191) 87
Ruediger, E. H., (71) 532
Ruffer, M. A., (19) 1735, (28) 21
Ruge, E., (64) 1286
Ruggles, E. W., 160
Rugh, J. T., (106, 107) 77, 430, (1
442, 1270
Ruh, H. O., (35) 1108
Ruhräh, J., (75) 1732
Rühs, K., (90) 1115
Rullier, G., (49) 1285
Rumpel, (76) 1911
Rumpf, T., (101) 1289
Rumschewitsch, K., (130) 1282
Rundle, C., (7) 870
Runge, E., (62) 630, (62) 709
Runyan, J. P., 250
Rupert, M. P. S., (67) 1280
Ruppe, B., (128) 626
v. Ruppert, A., (159) 86
Russ, R., (33) 439
Russ, V. K., (117) 266
Russ, W. B., (93) 793
Russel, C. K., (82) 869
Russell, A. E., (21) 172
Russell, F. F., (21) 944
Russell, H. L., (57) 1108
Russell, J. S. R., (22) 80, (124, 13
1037
Russell, R. H., (40) 2191
Russell, W., (10) 535, (10) 1644
Ruth, C. E., (74) 76
Ruth, W., (123) 717
Rütimeyer, L., (76) 2009
Ruttin, E., (139) 2198
Ryall, C., (23) 1554, (30) 1821, (1
2093
Ryan, A. H., (35) 1278
Ryan, J. G., (59) 350
Rydygier, L. R. V., (103) 2099

Sachs, H., (62) 427
Sachs, T. B., 130, *1413
Salger, J., (81) 2098
Saenger, M., (102) 716
Sahli, H., (68) 1910
Saigal, R. D., (31) 790, (41) 1112
Saiki, T., (48) 1771
Sainsbury, H., (25) 1045
Saito, M., (49) 713
Saiz, G., (13) 1474
Sajous, C. E., De M., (129) 270, (134) [illegible] (94) 949, (78) 1289
Saldarba, C. N., (9) 2214
v. Salis, H., (89) 1471
Salmoni, G., (120) 2012
Salomon, H., (117, 119) 266
Salomon, M., (4) 174
Salomon, S., (174) 87
Salter, A. G., (33) 1112
Salter, R. W., (97) 1819
Salus, G., (68) 632
Salvetti, T., (149) 1044
Salvin-Moore, J. J., (73) 1078
Salzer, H., (55) 1566
Salzmann, M., (123) 712
Sambon, L. W., (19) 871, (73) 1191
Sampson, J. A., 70, (109) 442, (49) 777, (56) 1903, (24) 2189
Samson, J. W., (79) 1470
Samuel, M., (122) 1561
Sanborn, G. P., 1201
Sandberger, G., (95) 176
Sanders, J. L., (122) 870
Sandwith, F. M., (23) 2169
Sardou, G., (41) 1908
Sargnon, (55) 537, (60) 1079, (50) 1289
Sarra, G., (125) 1290
Sarrazin, R., (93) 2008
Sato, T., (104) 1913, (88) 2098
Satterthwaite, T. E., 717
Sauer, W. E., (122) 78, (77) 440, (129) 530
Sauerbruch, E. F., *878
Saundby, R., (9) 79
Saunders, B., 1520, (53) 2000
Saunders, E. W., (79) 709
Sautter, A. C., 1345
Savran, P., (109) 1773
Savage, G. C., (57) 2003
Savage, G. H., (159) 1188, (13) 2003
Savage, H. G., (60) 441
Savage, W. E., (21) 1462
Savage, W. G., (18) 952
Savariaud, 97
Savas, C., (141) 1118
Savill, A. F., (13) 2235
Savini-Lojani, L., (113) 1233
Savy, P., (51) 1113
Sawtell, J. F., (94) 710
Sawyer, C. W., (47) 2090
Sawyer, H. P., (45) 1903
Saxl, P., (140) 1043
Saxon, G. J., (40) 256
Scellingo, M., (142) 268
Schabad, J. A., (92) 265, (64) 1469
Schachner, A., (45) 1033
Schadle, J. E., (109) 352
Schäfer, E. A., (2) 78, (11) 79, *801
Schafer, J., (82) 2098
Schäfer, K., (115) 800
Schaffner, G., (57) 630
Schaffter, C. F., (42) 445
Schaller, L. F., (58) 954
Schamberg, J. F., (95) 259, *1228
Schanz, A., (86) 956, (69) 1911
Schatiloff, P., (76) 175, (92) 176, (79) 539
Schatz, E., (74) 82
Schatz, F., (61) 2192
Schauffler, E. W., (90) 1904
Schauenstein, W., (52) 630
Schauta, F., (110) 1913, (97) 2099
Schede, F., (102) 177
Scheel, O., (116) 359
Scheffzek, (95) 1288, (63) 1647
Scheidemandel, E., (81) 875
Scheier, M., (78) 1779
Schelble, H., (78) 1912
Schellong, H. O., (96) 632
Scheltema, G., (136) 634
Schenck, B. R., *1395
Schenck, W. L., 1096
Scherk, (94) 1382
Schickele, (158) 86
Schieffer, (63) 171
Schiller, S., (94) 1552
Schilling, C., (104) 1041
Schilling, F., (52) 264, (104) 358
Schindler, C., (112) 84
Schinötz, H., (134) 1743
Schirmer, K. H., (70) 1911
Schirokauer, H., (146) 1475
Schirokogoroff, J. J., (125) 1474
Schlaepfer, (82) 1381
Schlagenhaufer, F., (89) 2098
Schlasberg, H. I., (111) 541
Schlatter, C., (52) 1892
Schlecht, H., (71) 174
Schleissner, F., (105) 1741
Schlesinger, (39) 1468
Schlesinger, E., (96) 265, (68) 1738
Schley, (70) 1470
Schley, W. S., (44) 256
Schlieps, W., (49) 797
Schlesser, O. M., 247
Schlossmann, A., (68) 1647
Schlesinger, A. G., (66) 1563
Schmaltz, 2535
Schmidlechner, C., (91) 716
Schmidt, A., (6) 174, (74) 175
Schmidt, H., (71) 251
Schmidt, H. E., (117) 84, 716, (64) 714, (77) 1981
Schmidt, J. E., (91) 1049
Schmidt, J. J., 162
Schmidt, W., (144) 350
Schmidt-Nielsen, S., (141) 1747
Schmiedehausen, A., (61) 87, (87) 1481
Schmincke, A., (104) 147
Schmoll, S. O., (107) 1417
Schnecl, S. W., (71) 70
Schneider, G. E., (110) 1077
Schneider, P., (110) 1477
Schnitzler, J., (89) 417, (86) 1819
Schnutgen, (79) 955
Schöll, S. O., (107) 1 1
Schoenijahn, W. C., (41) 1979
Schofield, A. T., (34) 1177
Schiele, H., (10) 84
Schnabel, A., (89) 958
Schöne, C., (145) 86
Schönheim, L., (60) 1910
Schott, (84) 779
Schottelius, F., (67) 954, (62) 1117
Schroeder, (68) 1476
Schreiber, L., (114) 1477
Schrille, H., (147) 86
Schröder, G., (101) 1560
Schroeder, E., (172, 175) 1117
Schroeder, J. C., (85) 717
Schroeder, J. H., *857, (21) 2234
Schroeder, K., (69) 714
Schroetter, P., (42) 1471
v. Schrötter, H., (106) 877, 1419, 1905
v. Schrötter, L., (98) 341
Schrumpf, P., (98) 2011
Schubert, G., (115) 877, (108) 1473
Schücking, (190) 87
Schuldt, E. C., (109) 75
Schulte, F., (141) 86
Schultz, F., (60) 951
Schultz, O. T., (147) 534
Schultz, T., (126) 1742
Schultz, W., (72) 631
Schultz, W. H., (70) 250
Schultze, E., (94) 176
Schultze, K., (75) 1779, (97) 2011
Schultze, W. H., (127) 1474
Schultz-Zehden, (88) 715
Schulz, (74) 2193
Schulz, C., (89) 1649
Schulz, G. B., (85) 1904
Schumacher, E. D., (51) 1822
Schumm, O., (89) 176, (69) 714, (101) 716
Schurmann, W., (93) 2010
Schütz, E., (172) 87, (48) 264
Schütz, R., (86) 1559
Schütze, A., (130, 131) 634, (102) 1740, (87) 2194
Schwab, A., (146) 1771
Schwab, M., (84) 176, (125) 1742, (98) 1826
Schwalbach, G., (93) 2191
Schwalbe, J., (65) 1647
Schwartz, H. J., (44) 2002
Schwarz, A., (92) 2194
Schwarz, G., (73) 356, (109) 1474
Schwarz, H., 1457
Schwarz, M., (41) 1816
Schwarzenbach, I., (71) 714
Schwarzmann, J., (84) 356
Schwenckenbecher, A., (104) 716
Schwerin, H., (105) 1826
Scott, A., (20) 1038
Scott, C. T., (18) 1377
Scott, F. L., (46) 791, (193) 1111
Scott, F. W. K., (31) 2006
Scott, G. D., (61) 532
Scott, J. A., (138) 1734
Scripture, E. W., (7) 789, (10) 1729, 1797
Scudder, C. L., 344, (2) 705, (4) 1105, (1) 1549, (83) 1613, (36) 2089
Scurfield, H., (16) 1038
Seaman, G. E., 703
Sears, G. G., 453
Seba, J. D., (70) 109, (77) 1552
Sedgewick, J. P., (92) 1036
Sedgwick, W. T., (29) 945
Seefelder, R., (78) 631
Seefisch, G., (70) 2097
Seelig, M. G., (36) 1372, (23) 1640
Seeman, O., (76) 2193
Seibert, A., (18) 73
Seibert, J. H., (101) 949
Seidel, C., (79) 875
Seidel, H., (106) 149, (51) 797
Seidell, A., *1385
Seiffer, W., (43) 953
Seitz, L., (63) 538, (61) 1113
Selig, A., (74) 798
Seligmann, E., (67) 1470
Selka, A., (102) 632
Selkirk, E. J. B., (14) 2093
Sellards, A. W., (29) 256, (45, 46) 1464
Sellars, E. J., (84) 1811
Seller, L. R., (73) 1175
Sellheim, H., (18) 87, (100) [illegible] (61) 954, (61) 1047, (112) 1641
Selter, M., (11) 82
Semmes, R. D., (3) 349, (88) 1189
Semple, D., (2) 78
Senator, H., (57) 878
Senftenberg, B. E., (120) 1563
Senger, E., (61) 174
Senkpiel, (10) 1560
Sera, N., (1) 167
Sexton, W. J., 151
Sequeira, J. H., (99) 1771
Sergent, E., (48) 445, (14) 712, (15) 1817
Sewall, E. C., (64) 1185
Sewall, H., 101, (29) 708
Sewell, E. S., (17) 711
Sewall, H., (29) 871
Seymour, N. G., (9) 1639
Sears, A., (4) 1046
Shadrach, W. G., (127) 626
Shafer, G. D., (80) 1108
Shaffer, P. A., *971, (34) 1278, (47) 1741, (42) 1817
Shambaugh, G. E., (86) 441, (84) 2092
Shannon, J. R., (33) 719
Sharp, J. C., (51) 1551
Sharp, W. N., (105) 1819
Shattenfroh, A., (106) 2011
Shattuck, F. C., (1) 255, (91) 1186
Shattuck, S. G., (5) 951
Shaw, H. L. K., (95) 2004
Shaw, L. E., (10) 261
Shaw, T. C., (1) 710, (17) 1377
Shaw, W. B., (2) 1466
Shaw, W. E., (9) 263
Sheahan, J., (121) 1377
Sheffield, H. B., (67) 532
Sheldon, C. S., 703
Sheldon, J. G., (116) 793, (40) 2089
Sheldon, W. D., (90) 625
Shelmerdine, F. K., (52) 1552
Shennan, T., 1966
Shepard, B. A., (161) 171
Shephard, J. H., (38) 1640
Shepherd, F. J., (106) 260
Sheppard, J. P., (90) 710
Sheppard, W. S., (8) 2234
Sherman, H. C., (70) 1731
Sherman, H. M., (134) 352
Sherren, J., (154) 1734
Sherwell, S., (141) 626
Shiels, G. F., (57) 1279
Shimault, C. R., 250, (71) 1552
Shingu, S., (47) 2095
Shiota, (45) 2095
Shipley, A. F., (52) 1039
Shippey, O. P., (63) 948
Shoemaker, G. E., (50) 1107, (110) 1282, (77) 2189
Shoemaker, J. V., (130) 260, (94) 534, (96) 949, (79) 1280, (74, 76) 1642
Sholl, E. H., (148) 78
Shorer, E. H., (89) 1904
Shortle, A. G., (76) 1186
Shropshire, C. W., (158) 78, (139) 534
Shufflebotham, F., (21) 1038, (5) 1466
Shuler, J. L., (131) 1820
Shurly, E. L., (172) 950
Sibley, B. D., (43) 1641, (55) 1732
Sicard, J. A., (47) 1908
Sichel, C. C., (8) 348
Sick, K., (61) 174
Sick, P., (93) 799, (80) 2097
Sidis, B., (44) 2187
Sicre, A., (63) 1039
Siebelt, (129) 85
Sieber, H., (127) 267
Siebold, (56) 954
Siegert, F., (94) 1559, (104) 1560
Siegmund, A., (77) 955
Sievers, R., (96) 358, 2097
Sihle, M., (142) 1475
Silberberg, L., (67) 714
Silberborth, (105) 1289
Silbergleit, H., (79) 356
Silbermann, (73) 1193
Sill, E. M., 1626
Sill, J., (104) 442
Silva, L., (131) 717
Silver, D., 525
Silver, D. R., 1989
Silvestri, T., (197) 267, (128) 1743
Simionescu, F., (54) 873
Simmons, C. C., 432
Simmons, D. G., (40) 1185
Simms, B. B., *916
Simon, (117) 1289
Simon, C. E., (141) 442, *915, (25) 1184, *2154
Simon, L., (72) 1193
Simon, O., (83) 265
Simon, W., (79) 1287
Simonelli, F., (120) 878
Simons, E. M., (96) 799
Simonton, T. G., 1178
Simpson, C. F. B., (33) 167
Simpson, F. F., (55) 701
Simpson, F. F., (47) 707
Simpson, J. N., (109) 1277
S[illegible]m[illegible] M., 949
Simpson, W. L., (2) 946, (162) 1189
Sinclair, W. J., 52, (1) 1551
Sinclair, W. A., (16) 871
Singley, J. D., (91) 109, *992
Sinkler, W., *1017
Sisk, A. O., (50) 1185, 1451, (92) 2189
Sitzenfrey, A., (98) 1649
Skeel, A. J., (51) 2090
Skeel, R. E., 1118
Skillern, R. H., (150) 353, (19) 710, 1455, *2108
Skinner, E. H., (80) 77
Skoog, A. L., (60) 624
Skrzynski, Z., (61) 1469
Slack, F. H., 941
Slack, H. R., (68) 441
Sladen, F. J., 65, (159) 870, *1318, (101) 1819, (67) 2003
Slagle, C. E., 1319
Slater, C., (25) 1615
Slemons, J. M., (116) 177, (26) 945
Slingenberg, B., (120) 631
Sloan, S., (19) 80
Sluka, E., (100) 1041
Sluss, J. W., (123) 78, (114) 626
Small, W. B., (46) 531
Smart, R., (75) 1552
Smirnow, M. R., (40) 1464
Smith, A. L., 70, (155) 171, (36) 623, (37) 707, (85) 809, (7) 1183
Smith, A. N., 241
Smith, A. W., (60) 1109
Smith, C. A., (76) 1375
Smith, C. N., (63) 792, (45) 2090
Smith, D., (131) 1734
Smith, D. L., (5) 626
Smith, E., (49) 867, (8) 1735, (123) 1905, (2) 2234
Smith, F. D., 338
Smith, F. F., (74) 710
Smith, F. O., (19) 1184, (110) 1377
Smith, F. W., (50) 2188
Smith, F. R., (61) 1465
Smith, G. F., (5) 1038, (25, 27) 1111, (4) 2005
Smith, G. M., (37) 2191
Smith, H., (7) 951, (134) 1906, (33) 2191
Smith, J., (12) 1038, (38) 1555
Smith, J. F., (140) 353
Smith, J. R., (21) 348
Smith, K. W., (136) 1188
Smith, L. M., (44) 1185
Smith, L. S., (53) 1468
Smith, R. R., (27) 1033, (24) 2001
Smith, S., (9) 2233
Smith, S. E., (126) 78
Smith, S. M., 1356, (59) 1732, (88) 2092
Smith, S. N., (119) 78
Smith, S. W., (17) 348, (4) 1900
Smith, T., (94) 869, (60) 1108, 1258, (1) 2088
Smith, T. C., (30) 1033
Smith, W. F., 1809
Smith, W. G., (54) 1039
Smith, W. H., (50) 1185
Smith, W. S., 1354
Smithies, F., *897, (34) 1902
Snell, A. C., (132) 1188
Snell, S., (15) 443, (1) 793, (4) 1014
Sneve, H., (135) 793
Snodgrass, W. A., 250, (127) 1906
Snow, I. M., *1917
Snow, M. L. A., (7) 706
Snyder, C. D., (73) 350, (49) 1106
Snyder, H. L., (95) 710
Snyder, J. R., *1212
Snyder, W. H., (107) 1722
So, (60) 355
Soderbergh, G., (95) 1196
Soderlund, G., (119) 800
Sofer, L., (97) 1740
Sohma, M., (177) 87, (67) 799
Solaro, G., (84) 1194
Soli, T., (40) 1567
Solieri, S., (102) 448
Solis, J. C., 669, (73) 1904
Sollmann, T., [illegible] *421, *457, [illegible] [illegible] (92) 1722, [illegible]
Soltmann, O., (75) 1162
Somers, F. W., (109) 1077, (100) 1642
Somers, L. S., (42) 1774
Sommer, E., (72) 714, (72) 1824
Sommer, R., [illegible]
Sondern, F. E., (32) 867, 1627
[illegible], F., (104) 448
[illegible], H. W., *1259
[illegible] (42) 77
[illegible], J. M., (7) 1466
[illegible], J. C., (126) 1111
[illegible], F., (47) 1279
[illegible], P., (24) 177
[illegible], E., *642
[illegible], F. E., 154, (92) [illegible] 509
[illegible], C. F., [illegible]
[illegible], T. S., [illegible]
[illegible], H. C., [illegible]
[illegible], R., [illegible]
[illegible], J. A., [illegible]
[illegible], H. L.
[illegible], E., [illegible]

Wilms, (99) 358, (79) 632, (109) 1383, (74) 1739
Wilson, C., (33) 2089
Wilson, D., 1545
Wilson, D. S., (155) 1188, (123) 1377, (94) 1733
Wilson, E. J., (25) 348
Wilson, H., (77) 351
Wilson, H. A., 528, 1625
Wilson, I. V., *1696
Wilson, J. C., (143) 442
Wilson, J. H., 1179
Wilson, L. B., (85) 625
Wilson, L. D., (118) 1734
Wilson, L. J., (74) 1280
Wilson, L. T., (13) 1729
Wilson, N. L., (140) 78
Wilson, O. H., *1836
Wilson, R. J., (64) 2091
Wilson, T. G., (27) 2006
Wilson, W. J., (3) 171, (32) 2190
Wilson, W. L., 784, (77) 1110
Wilson, W. R., 156
Wimark, J., (101) 1196
Wimmer, A., (87) 1825
Winckelmann, (71) 798
Windston, J. W., (20) 2186
Wingate, U. O. B., (76) 258
Wingerter, C. A., 130
Wingrave, W., (46) 81, (32) 537, (40) 1379, (41) 1468
Winn, J. F., (51) 440
Winnogradow, B., (71) 1738
Winslow, (119) 260
Winter, G., (90) 1195
Winter, J. E., 920
Winter, K., (93) 632
Winternitz, A., (51) 713
Winternitz, M. C., (142, 143, 147) 1111, (25) 2089
Wirth, K., (137) 1474
Wirths, M., (114) 1042, (49) 2095
Wiseman, L., (112) 626
Wishard, W. N., (43) 946
Witherspoon, J. A., 1993
Witt, C. E., (150) 950
Witt, W. H., (47) 791
Witthauer, K., (95) 1382
Wladimiroff, G. E., (59) 874
Wodehouse, R. E., (18) 166
Woehnert, A. E., (1) 530
Woehnert, A. R., (10) 1901
Wohlgemuth, H., (74) 1380
Wohlgemuth, J., (64) 630
Wohlwill, F., (94) 2098
Wolbach, S. B., (35) 439, (111) 869
Wolbarst, A. L., (13) 1639
Wolfenstein, L., (142) 1820
Wolff, E., (50) 797
Wolff, L., (104, 105) 1116
Wolff, M., (58) 1193
Wolff, W., (92) 83
Wolff-Eisner, A., (75) 575, (141) 1043, (47) 1192, 1371, (106, 107) 1383
Wolfring, S. F., (48) 1192
Wollenberg, G. A., (80) 356
Wollstein, M., (153) 870, 1368
Wolter, J., (97) 1559
Wood, A. C., (31) 74
Wood, C. A., (57) 791, (128) 1037
Wood, C. E., (15) 2088
Wood, E. G., (45) 791
Wood, F. C., (104) 169
Wood, G. W., (50) 917
Wood, H., (117) 793, (55) 1034
Wood, H. C., Jr., *1593
Wood, P. R., (19) 1032, (55) 1817
Wood, W. G., (163) 171
Woodbury, F. T., (120) 950
Woodhead, G. S., 1258
Woodruff, C. E., (13) 1106, (57) 1552
Woodruff, H. W., (122) 534
Woodruff, T. A., (79) 1818
Woods, A. H., (65) 1109
Woods, H., *204
Woods, M., (50) 349
Woods, R. A., (82) 2189
Woods, R. F., (4) 1371
Woodson, J. M., (181) 171
Woodson, T. D., (19) 1107, (30) 1372
Woodville, J. B., (136) 626
Woodward, W. C., (73) 710
Woolf, A. J., (14) 865
Worcester, A., (9) 1277
Worrall, R., (30) 872, (39) 1112
Wossidlo, E., (82) 1040
Wowney, J. M., *1232
Wrede, L., (26) 1640
Wright, A., (22) 1906
Wright, A. E., (25) 80
Wright, B. L., (48) 75, (7) 944, (45) 1108, *1854
Wright, G. J., 69
Wright, H., 688
Wright, H. J. B., (39) 531
Wright, J., (10) 706, (10) 1462, (13) 1815
Wright, R., 1439
Wright, T., *640
Wullstein, L., (39) 2094
Würdemann, H. V., (137) 78, (116) 869, (70) 1109, (133) 1188
Wurtz, R., (60) 1039
Würz, (61) 264
Wycoff, C. W., (115) 1377
Wyler, J. S., (124) 1905
Wylie, A., (22) 1467
Wylie, E. R., (179) 171
Wyman, B. L., 1805
Wyman, H. C., (70) 792
Wyman, W. A., 1546, (93) 1733
Wynhausen, O. J., (68) 174
Wynn, W. H., (10) 871
Wynter, W. E., (33) 1467
Wyss, O., (69) 798

Y

Yakimoff, W. L., (176) 87, (115) 717, (106) 1741
Yamada, K., (122) 1473
Yamanouchi, T., (107) 2011, (30) 2094
Yankauer, S., (89) 441, (126) 870
Yates, H. W., (168) 171
Yearsley, M., (40) 81, (31) 1378
Yensen, C. O., 1259
Yeoman, J. B., (14) 1377
Yersin, A., (69) 532
Yonge, E. S., (4) 171
York, N. A., (72) 1375
Young, C. B., (81) 1466
Young, E., (44) 1468, (20) 2006
Young, E. B., (133) 442
Young, F. B., 250, (120) 534
Young, F. F., (174) 171
Young, H. H., 160, 161
Young, J. K., 344, (93) 949, 1542, (52) 1903
Yount, C. E., (87) 1466
Yourevitch, V., (62) 1039
Youtz, H. L., *1509
Yvon, P., (60) 1286

Z

Zacharie, C. C., (142) 626
Zahorsky, J., (29) 1372
Zak, E., (109) 877
Zand, G., (101) 177
Zangemeister, W., (120) 1742
Zannoni, T., (152) 1475
Zeigler, S. L., (12) 1815
Zeisler, J., (61) 76
v. Zeissl, M., (150) 86
Zeissler, J., (68) 1823
Zeller, O., (113) 2195
Zenner, P., *28, (72) 76, (115) 949, *1309, 1807, (21) 1901
Zentmayer, W., *188, (121) 352, (122) 1037, (130) 1188, 1543
Zerfing, C. E., (124) 170
Zesas, D. G., (47) 2192
Zickel, G., (135) 1117
Ziegenspeck, R., (125, 128) 267, (127) 1117
Ziegler, K., (71) 174
Ziegler, S. L., (72) 2189
Ziegner, H., (94) 1825
Ziehen, (83) 1115
Zieler, K., (113) 1042
Ziem, C., (87) 876
Zieztschmann, O., (95) 1649
Zikel, H., (111) 1116
Zimmer, (94) 2194
Zimmerman, B. F., (64) 1185, 1546
Zimmermann, V., (82) 875
Zimmern, A., (48) 355, (40) 537
Zinke, E. G., (22) 623, 1458
Zinsser, F., (102) 1472
Zoda, R. G., (156) 1475
Zollikofer, R., (73) 1824
Zuckerhandl, O., (61) 1556
Zuelzer, G., (54) 954
Zuntz, L., (98) 2194
Zuntz, N., 1255
Zupnik, L., (80) 447, (65) 1738
Zurhelle (124) 1827
Zwart, B. H., (81) 1904
Zweig, W., (49) 264
Zweifel, P., (10) 1377, (51) 1646, (56) 2192
Zwintz, J., (167) 87, (108) 1913